87-88 CATALOGUE

DICK SMITH ELECTRONICS PTY LTD

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24 HOUR DESPATCH

DSXPRESS

DICK SMITH ELECTRONICS EXPRESS ORDER SERVICE

FREE FREIGHT

ALL ORDERS OVER $75 VALUE ARE DESPATCHED FREIGHT FREE ANYWHERE IN AUSTRALIA!

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(1) Order by Phone: it's quick and easy!

No matter where you live in Australia, it will cost you just a local call for a fast and convenient call to our credit card orderline.
Yes, as well as our original number — (02) 888 2105 — we now have a special toll-free number — (008) 22 6610 — for our intra-state and interstate customers. So no matter where you are in Australia, you can order for the cost of just one local call.
Payment may be made through your nominated credit card: Bankcard, Visa or Mastercard.

(2) Order by Computer: 21st century ordering!

If you own a computer, you must know about the Dick Smith Electronics Remote Bulletin Board System — (02) 887 2276. As well as all the features of this free service, a special section has been included to allow you to order via your computer! Yes, you can call the RBBS even at three o'clock in the morning to place your order and charge it to your credit card... for lightning fast despatch. Full details from the DSE RBBS (02) 8872276.

(3) Order by Fax: quick, convenient and certain

Especially for those with access to facsimile machines (and that seems to be an incredible number these days!) we've installed a fax machine, ready for your order anytime — day or night. And the best part about fax is you know the order is in writing — as you wrote it: there can't be any misunderstandings! Our fax machine is group one, automatic and the number is (02) 888 3631

(4) Order by Telex: most businesses have them!

A huge number of our DSXpress customers are companies in remote areas. Most of them have telexes! Once again, our telex machines are ready for you 24 hours per day — and you can be assured your order will receive instant attention.
Our Telex Number: (AA) 20036, Answerback: DICKS

(5) Order by Telegram: it's speedy!

Even if you don't have a telex, you can have your order delivered at almost the same speed by using the Australia Post Telegram Service. Many of our remote area customers find it extremely convenient — and you can have the telegram delivered to us, or delivered to our Telex number.
Telegraphic Address: Diksmit, Sydney

(6) Viatel

Easy to use — full catalogue available —brochures and weekly specials.
Always up to date — use the latest way to order — VIATEL.

(7) Order by Mail: the old faithful

If you haven't ordered from us before, you haven't had a chance to find out about our lightning fast service and all the other features we offer. And you also won't have a BRP envelope.
And then you'll know how easy it is; how convenient to shop from the comfort of your own home through DSXpress.

Have you tried DSXpress?

If you can't make it to a DSE store, DSXpress is ready to serve you! Any catalogue item can be ordered through DSXpress — and DSXpress guarantee your order will be on its way at most within 24 hours — usually it's same day! The same friendly service. The same great products. The same low, low prices. They're all yours at DSXpress. Join the DSXpress family — you'll be glad you have a relative in the business!

FOUR WAYS TO RECEIVE YOUR ORDER TOO!!!

And we subsidise frieght!

If you already used our free freight order form in our catalogue why not take advantage of our exclusive freight deals.
Because of the HUGE amount of freight we despatch every day, we've been able to arrange some very special prices with the freight companies.

(1) Air Freight: the quickest way of all!

Normal delivery is next day in most areas of Australia. How's that for service! Free delivery over $75 anywhere in Australia — see order form for rates.
Overseas air freight: DSXpress International will be glad to send you a special overseas order form detailing overseas freight rates.

(2) Road Freight:

Great for heavier and bulky items. Anywhere in Australia.

(3) Post:

And not just ordinary post, either! We courier all post bags to interstate capitals and post from there. Saves your package lots of time (it doesn't get caught in the Redfern Mail Monster!)

(4) Local Courier:

If you're in the Sydney area, DSXpress will courier your package to you using either VIP, standard or budget courier systems. And you can charge the goods to your credit card! Only $4.00!

CALL 24 HOUR TOLL-FREE
(RING FROM ANYWHERE FOR THE COST OF A LOCAL CALL)

008..226610

(SYDNEY AREA [02] CALL 888 2105)

DOUBLE FOR NOTHING COUPON OFFER!

Name: .....

Address: .....

..... Postcode: .....

$1

This coupon is worth one dollar off any single purchase of ten dollars or more through any Dick Smith Electronics company store or DSXpress Home Delivery Centre. May not be redeemed for cash. Limit one coupon per purchase. Valid to 31/3/87.

Name: .....

Address: .....

..... Postcode: .....

$1

This coupon is worth one dollar off any single purchase of ten dollars or more through any Dick Smith Electronics company store or DSXpress Home Delivery Centre. May not be redeemed for cash. Limit one coupon per purchase. Valid to 31/3/87.

The Great $2 Rip... off!
Catalogue buyers double your money bonus

One dollar is such a small amount to pay for the best, most exciting, most comprehensive electronics catalogue in Australia. After all, nothing else compares to your new Dick Smith Electronics Catalogue. We know that all you DSE Catalogue owners are a discerning lot, you've got an eye for value — so we're going to DOUBLE YOUR MONEY! These two one dollar coupons can be used at any one of DSE stores (and there's nearly seventy of them) or through DSXpress home deliveries.

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Dear Customer,

Welcome to our brand new catalogue for 1987/88.

Despite a tough economy, we've had a pretty good year at DSE, and we hope you have too!

We know you'll enjoy this fantastic new catalogue, and that you'll be able to make good use of it. You may notice a few changes from last year, all of which are aimed at providing you with even better service, advice and product range.

Components are accompanied by detailed technical drawings, listing size and weight, making it easier for you to shop and compare. Obviously we're fairly confident that DSE will come up trumps when it comes to value-for-money, so we've laid all our cards on the table.

More importantly, it makes ordering much easier if you know the exact dimensions of the item you're expecting to receive. A real boon for mail order customers!

A newcomer we're sure you'll make welcome to the family is the Heathkit range. Its excellent reputation is irrefutable, with the ultimate in R & D and QC going into each and every kit and its comprehensive manual.

Our own QC and QA procedures have also intensified, so the product you pick off our shelves will be reliable and of the best possible quality.

Other changes we've made to the team will also result in some fantastic benefits for our customers. The Dick Smith Wholesale operation is expanding internationally, opening up new markets and finding new sources of superior product at better prices. These benefits, as always, will be passed on to you.

In all we believe 1987/88 will be a year of change. DSE is rapidly approaching its third decade of providing excellent service, product and advice to our loyal customers. We are grateful for your continued and growing patronage, and we are always looking at refining and upgrading our level of service to provide you with the ultimate in shopping convenience. You'll be able to judge the net result yourself as you shop at DSE in one of our 65 stores in Australia and New Zealand, through Dick Smith Express or our Wholesale Division and associated approved distributors.

Have a great year, and once again many thanks for shopping with us.

With Regards,

Mike Wilson
Managing Director
Dick Smith Electronics

New! New!! New!!! Everywhere you look there are hundreds of brand new items. For the hobbyist, the professional, the home... there's something for everyone in the fantastic 1987 DSE Catalogue! If you want the chance to read it though, you'd better hide it from your friends.

Quick Index

For full index see page 146

Kits 6-19

Tools & Test Gear 20-35

Components 36-64

Communications 65-78

TV Antennas 78-82

Security 84-88

Car Hi-Fi & Accessories 88-92

Audio 93-99

Phones & Answer Machines 100-103

Learning Aids, Toys 104-109

Calculators & Computers 110-115

Books 116-120

Data Section 121-145

PLEASE NOTE: This catalogue is valid for the period April 1987 to March 1988. During the life of this catalogue, however, currency fluctuations, Government policies and other causes beyond our control may force price changes, product differences, etc. Please enquire at your nearest Dick Smith Electronics store or authorised re-seller for latest prices and information.

You'll find us

It's true! With more than 70 stores open or planned to open during 1987 throughout Australia and New Zealand and over 200 authorised re-sellers (the twenty five largest re-sellers are listed below) you're never far from the friendly, helpful service of Dick Smith Electronics.

And just in case you **are** out of reach of a store or re-seller, that same friendly, helpful service — and the low, low DSE prices — are available to you through DSXpress. And that's just a toll-free phone call away from anywhere in Australia!

You're also not far from DSE Technical Services: now in every mainland capital city.

Why go elsewhere? The best range, the best prices, the best service: it's all yours at Dick Smith Electronics.

Australian Store Locations

NSW		
Swift & Young Sts.	**Albury**	(060) 21 8399
T55 Terrace Level	**Bankstown Sq**	(02) 707 4888
Shop 1, 65-75 Main St	**Blacktown**	(02) 671 7722
613 Princess Hwy	**Blakehurst**	(02) 546 7744
Oxford & Adelaide Sts	**Bondi Junction**	(02) 387 1444
Shop 2, 1B Cross St Warringah Mall	**Brookvale**	(02) 93 0441
Campbelltown Mall Queen St	**Campbelltown**	(046) 27 2199
Shop 235, Archer St Entrance	**Chatswood Chase**	(02) 411 1955
147 Hume Hwy	**Chullora**	(02) 642 8922
164 Pacific Hwy	**Gore Hill**	(02) 439 5311
315 Mann St	**Gosford**	(043) 25 0235
4 Florence St	**Hornsby**	(02) 477 6633
Elizabeth Dr & Bathurst St	**Liverpool**	(02) 600 9888
450 High Street	**Maitland**	(049) 33 7866
621-627 The Kingsway	**Miranda**	(02) 525 2722
173 Maitland Rd, Tighes Hill	**Newcastle**	(049) 61 1896
Lane Cove & Waterloo Rds	**North Ryde**	(02) 88 3855
George & Smith Sts	**Parramatta**	(02) 689 2188
The Gateway High & Henry Sts	**Penrith**	(047) 32 3400
818 George St	**Railway Square**	(02) 211 3777
125 York St	**Sydney City**	(02) 267 9111
Treloar's Bldg, Brisbane St	**Tamworth**	(067) 66 1711
263 Keira St	**Wollongong**	(042) 28 3800
ACT		
96 Gladstone St	**Fyshwick**	(062) 80 4944
VIC		
Creswick Rd & Webster St	**Ballarat**	(053) 31 5433
145 McCrae St	**Bendigo**	(054) 43 0388
Shop 46,Box Hill Central, Main St	**Box Hill**	(03) 890 0699
Hawthorn Rd & Nepean Hwy	**East Brighton**	(03) 592 2366
260 Sydney Rd	**Coburg**	(03) 383 4455
1150 Mt Alexander Rd	**Essendon**	(03) 379 7444
Nepean Hwy & Ross Smith Ave	**Frankston**	(03) 783 9144
Shop 9, 110 High St	**Geelong**	(052) 43 8522
291-293 Elizabeth St	**Melbourne City**	(03) 67 9834
Bridge Rd & The Boulevarde	**Richmond**	(03) 428 1614
Shop 2, 141 Maroondah Hwy	**Ringwood**	(03) 879 5338
Springvale & Dandenong Rds	**Springvale**	(03) 547 0522
QLD		
157-159 Elizabeth St	**Brisbane City**	(07) 229 9377
166 Logan Rd	**Buranda**	(07) 391 6233
Gympie & Hamilton Rds	**Chermside**	(07) 359 6255
2nd Level Western Entrance Redbank Shopping Plaza	**Redbank**	(07) 288 5599
Queen Elizabeth Dr & Bernard St	**Rockhampton**	(079) 27 9644
Gold Coast Hwy & Welch St	**Southport**	(075) 32 9863
Bowen & Ruthven Sts	**Toowoomba**	(076) 38 4300
Kings Rd & Woolcock St	**Townsville**	(077) 72 5722
Cnr Pacific Hwy & Kingston Rd	**Underwood**	(07) 341 0844
SA		
77 Grenfell St	**Adelaide**	(08) 232 1200
Main South & Flagstaff Rds	**Darlington**	(08) 298 8977
Main North Rd & Darlington St	**Enfield**	(08) 260 6088
24 Park Terrace	**Salisbury**	(08) 281 1593
WA		
Wharf St & Albany Hwy	**Cannington**	(09) 451 8666
66 Adelaide St	**Fremantle**	(09) 335 9733
William St & Robinson Ave	**North Perth**	(09) 328 6944
Raine Square, 125 William St	**Perth City**	(09) 481 3261
TAS		
Shop 40A, Lower Level Cat & Fiddle Arcade	**Hobart**	(002) 31 0800
NT		
17 Stuart Hwy	**Stuart Park**	(089) 81 1977

New Zealand Store Locations

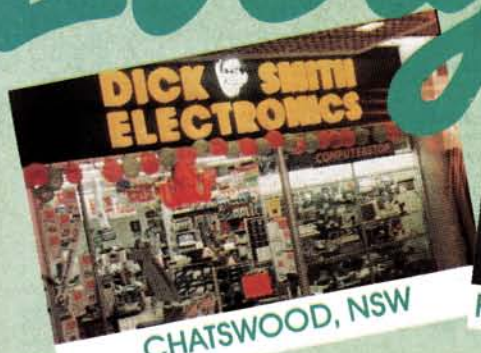
Fort & Commerce Streets	**Auckland City**	(07) 38 9974
1795 Great North Road	**Avondale**	(09) 88 6696
Victoria Road & Bealey Avenue	**Christchurch**	(03) 50 405
Manse & Stafford Streets	**Dunedin**	(024) 74 1096
450 Anglesea Street	**Hamilton**	(071) 39 4490
440 Cuba Street, Alicetown	**Lower Hutt**	(04) 66 2022
Cnr Khyber Pass & Park Rds	**Newmarket**	(09) 396 495
26 East Tamaki Road	**Papatoetoe**	(09) 278 2355
16 Lydney Place	**Porirua**	(09) 37 6654
289 Cameron Road	**Tauranga**	(075) 87 071
154 Featherson Street	**Wellington**	(04) 73 9858

Major DSE Wholesale Authorised Re-sellers

PHILLIPS ELECTRONICS	60 Forsythe St	WAGGA WAGGA NSW 216558
ELECTRONIC WORLD	Shop 27 K-Mart Westcourt	CAIRNS QLD 518555
MORWELL ELECTRONICS	95 George St	MORWELL VIC 346133
ADVANCED ELECTRONICS	5A The Quadrant	LAUNCESTON TAS 341399
NEWTRONICS	13 Pacific Hwy	CHARLESTOWN NSW 439600
COFFS HARBOUR ELECTRONICS	Shop 3, C/H Mall, Park Ave	COFFS HARBOUR NSW 525684
STEVENS ELECTRONICS	42 Victoria St	MACKAY QLD 511723
HALL OF ELECTRONICS	Horton Cent, 124 Horton St	PT MACQUARIE NSW 837440
RAY CROSS ELECTRONICS P/L	151 Boronia Rd	BORONIA VIC 7622422
BOB ELKIN ELECTRONICS	81 Bourbong St,	BUNDABERG QLD 721785
C & S ELECTROTECHNICS	35 Talbragar St	DUBBO NSW 828500
DECRO ELECTRONICS	12 Carrington St	LISMORE NSW 214137
HUTCHESSONS COMMUNIC.	5 Elizabeth St	MT GAMBIER SA 250400
TOMORROWS ELECT. & HI-FI	68 William St	GOSFORD NSW 247246
WELLINGTON'S DISCOUNTS	1-115 Macquarie Rd,	SPRINGWOOD NSW 514888
PAULS ELECT. & HOBBY TOYS	Shop 1, 10 Wason St	ULLADULLA NSW 552454
KELLER ELECTRONICS	218 Adelaide St	MARYBOROUGH QLD 214559
F.R.H. ELECTRICAL	28 Station St	BOWRAL NSW 611861
HOBBIES & ELECTRONICS	31 Oxide St,	BROKEN HILL NSW 884098
MICRO ELECTRONICS	133 Lockyer Ave	ALBANY WA 412077
BRAD'S ELECTRONICS	6 Civic Cent, Pulteney St	TAREE NSW 526603
OUTBACK ELECTRONICS	71 Barkly Hwy	MT ISA QLD 433475
KEITH DONGES ELECTRONICS	186 Boorowa St	YOUNG NSW 821279
LYN WILLING TV	32 Lawrence St	INVERELL NSW 221821
MARRTRONICS	12 Norfolk, 743 Raglan Pde	WARRNAMBOOL VIC 629870
A.I. ELECTRONICS & HOBBIES	9 Steele St	DEVONPORT TAS 248322
CARRAMAR RADIO	30 The Horsley Drive	CARRAMAR NSW 7263628

And there'll be even more stores opening in 1987!

Everywhere!



CHATSWOOD, NSW

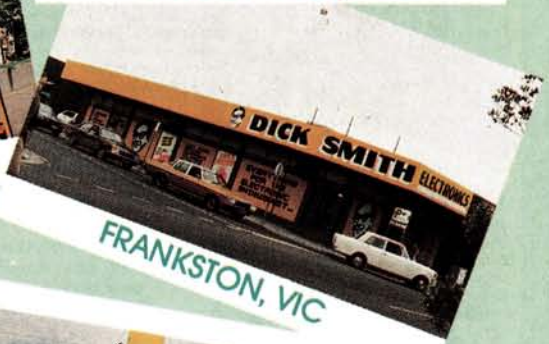
HEAD OFFICE NEW ZEALAND

TOWNSVILLE, QLD

UNDERWOOD, QLD

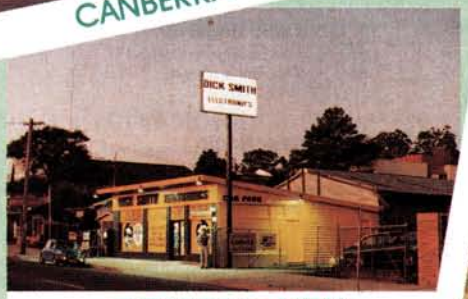
BRISBANE, QLD

GORE HILL, NSW



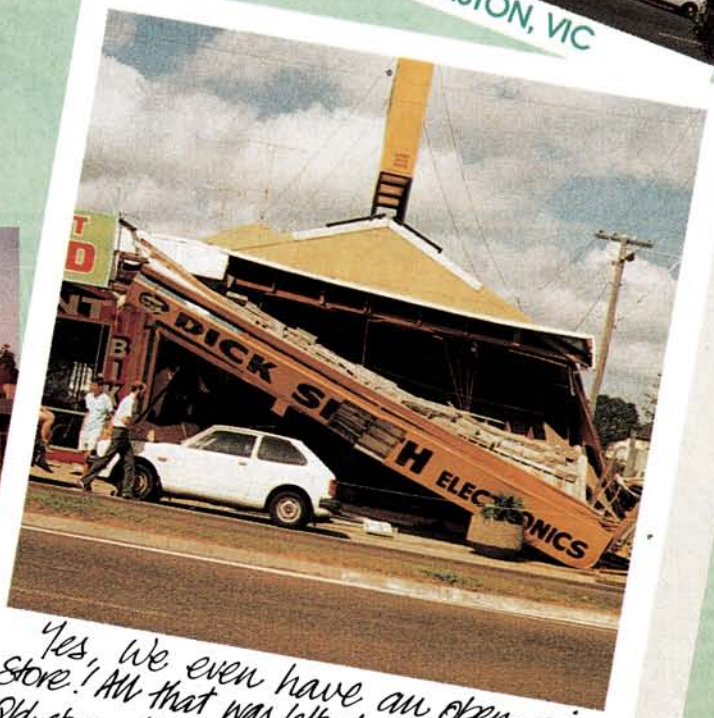
FRANKSTON, VIC

CANBERRA



GOSFORD, NSW

TAMWORTH, NSW



Yes, we even have an open air store! All that was left of our Southport Qld store after an altercation with two cars... watch out for the great new store!

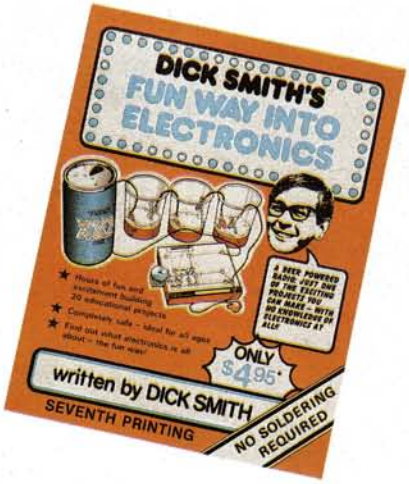
FUN WAY INTO ELECTRONICS

"THE BOOK"
FunWay Volume 1

Where it all began! The best selling manual now used as an introductory textbook in countless schools, colleges, youth groups, etc. etc. around the world. FunWay 1 assumes you know absolutely nothing! It will show you what the components look like, how to connect them into the circuit, even how to go on with further experiments with your circuit when they are finished. For complete safety, no soldering is required. All components are connected by screwing them into our unique 'breadboard' system with cut-out plans showing where the components actually fit. And even more: you'll learn what each circuit symbol looks like as you use it! Cat B-2600

FunWay 1: The ideal introduction for beginners from 6 to 66!

$4.95



Funway One
Project Kit 1 — 10

What a great start! This kit lets you build any one of the first ten projects. Components aren't soldered — so you can re-use them till you've built ALL 10 of these exciting projects!

Cat K-2600

$8.95

1. Continuity Indicator.
Just like a multimeter — it will show you if you have a complete circuit or an open circuit. A light emitting diode glows if the circuit is complete.

2. Transistor Tester
As well as telling you if your transistor is okay, it shows you how transistors work!

3. Water Indicator
Do your plants need a drink? This simple circuit will tell you how much water is in the soil!

4. A Light/Dark Indicator
Using a light dependent resistor, it will light a LED if light falls on it. The type of detector used in some alarms.

5. The Flasher
Want to add flashing lights to a model train layout? This project will do it for you!

6. An Electronic Siren
A mini version of the siren on Police cars! Fantastic to add to toys!

7. Dog and Cat Communicator
Dogs and Cats can hear sounds we can't! You could be able to talk to your pup in secret sounds!

8. A Decision Maker
As used by top executives and politicians! Just press the button and it will decide for you: Yes or No!

9. Morse Code Communicator
Amateur Radio operators send Morse code all over the world. You can learn the code too (or send secret messages!)

10. Music Maker
Your own electronic organ. And it really will play simple tunes, too!

Funway One
Project Kits 11 — 20

Combine these more specialised components with the 1-10 kit and you're ready for another 10 fantastic projects!

Cat K-2610

$9.95

11. Sound Effects Generator
Ever wondered how many of these sound effects are made in the movies? Build this and you can make some of your own!

12. A Crystal Set
Free radio — no batteries to buy, nothing to turn off! Listen in to your favourite station!

13. One Transistor Amplifier
Build your own amplifier: it can be used with the crystal set and other projects if you wish!

14. Beer Powered Radio
Yes, it actually runs on beer (or Coke!) Listen in (as long as you don't drink the battery!)

15. Two Transistor Amplifier
Even more power — enough to drive a speaker so you can listen in without headphones.

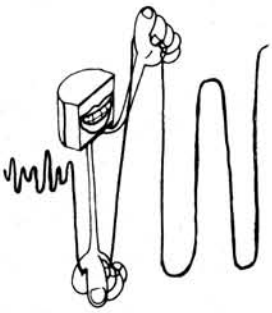
16. The World's Simplest Transmitter
Just like the young Marconi, you can transmit Morse Code across the room!

17. Voice Transmitter
Imagine being able to transmit your voice to a radio set! This project makes it easy!

18. CB Radio Receiver
Listen in to the truckies and other CBers. And you don't have to spend $$$ on a CB!

19. Amateur Radio Receiver
A radio receiver to listen in to ham operators plus other stations in the 2-6MHz bands.

20. Radio Booster Amplifier
A radio frequency amplifier to give other radios even better reception.



Unravelling Hi-Tech

The DSE FunWay into Electronics is the best way to unravel the mysteries of electronics. It's fun, it's exciting and you can save heaps by doing it yourself! The very latest in electronics needn't be out of your reach. Once you've finished the FunWay One projects you'll be ready to take the challenge with FunWay Two! Who know's, this could be the start of a whole new career.

Funway Volume 2

The next step after FunWay 1. It's bigger, better, more interesting, more exciting! Teaches you how to solder, how to use printed circuit boards and how to avoid the pitfalls! **Plus** — your jobs will look really professional with the specially printed labels! Cat B-2605

$6.95

Funway 2 Kits

20 Fantastic Projects!!

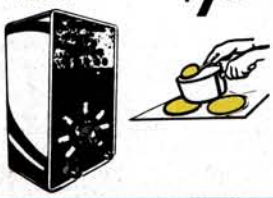
You can choose one or all of these amazing kits to build and improve your electronic skills. Together with FunWay Volume 2 you'll have a ball and surprise your friends with these practical projects.

1. Flasher
Make it as the latest in electronic jewellery, or a burlar warning light, etc. The choice is yours and it's easy!
Cat K-2621 **$3.85**

2. Ding Dong Doorbell
Yes, it actually sounds like a great old fashioned doorbell. But it's electronic: and you can build it!
Cat K-2622 **$5.45**

3. Morse Code Trainer
You can turn this audible alarm into just about anything requiring sound. Even for Morse code — and it's fun to learn!
Cat K-2623 **$9.95**

4. Universal Timer
Eggs too hard? Time them with this little timer. It really works — set it for a few seconds to 15 minutes!
Cat K-2624 **$7.65**



5. Electronic Dice
Just as much fun using it as it is building it! And it is really random — no cheating with this dice! Cat K-2625
$7.95

6. Mini Organ
Snazzy little circuit uses the back of the PCB as the keyboard! Play a tune — it's easy!
Cat K-2626 **$9.99**

7. Pocket Transistor Radio
Building this small set will teach you a lot about the fundamentals of radio. And then you'll have fun using it too!
Cat K-2627 **$9.35**

8. Touch Switch
Ever wondered how those lift buttons worked? Build this touch switch yourself and you'll be able to work it out. Variety of functions explained.
Cat K-2628 **$6.90**

9. Mosquito Repeller
Do mozzie repellers really work? Build this one and find out. Based on university research, intriguing! You won't hear it — but the mozzies will!
Cat K-2629 **$6.90**

10. Intercom Amplifier
Use to make the intercom (Project 18) or use as a general purpose amplifier. Really handy, good sound output too!
Cat K-2630 **$7.99**

11. Wireless Mic
Just like the 'bugs' used in spy movies! Transmits to any standard FM radio in another room or next door, etc. You can really hear it all! Cat K-2631
$8.29

12. Light Activated Switch
Useful in many security applications around the home etc. if a light goes on, the switch works. You could even use it to trigger a burglar alarm. Cat K-2632
$6.90

13. Metal/Pipe Locator
Extremely handy for locating pipes, wires, etc. in walls before drilling holes. Surprisingly effective for such a simple circuit.
Cat K-2633 **$7.95**

14. Sound Activated Switch
Picks up sound and triggers. Use as a telephone bell extender without breaking Telecom regulations or in security applications.
Cat K-2634 **$9.29**

15. Home/Car Alarm
Very practical! You could use this alarm to protect your home and property! Uses any of the normal alarm triggering devices. Cat K-2635
$7.99

16. Electronic Siren
Just what you need with the alarm! Also makes a great sound effects circuit — and FunWay 2 tells you what to do!
Cat K-2636 **$6.99**

17. LED Level Display
Hook it up to your stereo and it can warn you of dangerous overloads. Looks pretty nifty too — the LEDs light up in time to the music!
Cat K-2637 **$10.45**

18. Intercom Unit
Build your own intercom and use it around the home. Practical, simple to build with the intercom amplifier (Project 10).
Cat K-2638 **$10.95**

19. LED Counter Module
A perfect introduction to the world of integrated circuits. And this useful counter can be used for a huge variety of counting applications — or just for fun!
Cat K-2639 **$10.95**

20. Shortwave Receiver
You will be able to tune a variety of shortwave stations or, with simple modifications, emergency services and amateurs, etc. Easy and fun to build. Cat K-2640 **$9.49**

Funway 3 Kits

Making You A Professional!

Because Funway 3 projects are based on integrated circuits — you'll be really advanced. 100 pages of fun with projects which can be built in a variety of forms so there are as many individual projects as in the other books. You'll learn much more with Funway 3! If you use zippy boxes, and with your printed labels, your projects will look a million bucks! Cat B-2610

$6.95

1. Light and Sound
What versatility! It's really 6 projects in one: you just build the form you want — a LED flasher, a mini strobe flasher, police siren, motor boat sound effects, continuity tester and Morse Code practice oscillator. Cat K-2665
$7.49

2. Two Up
Australia's 'national game' has finally been converted to electronics. And you don't have to find any King George pennies! Simulates the throw, the spin and the final result. Come in spinner! Cat K-2661
$5.95

3. Cricket
Here's a ton of fun! Hide the cricket: when the lights go out it starts chirping. Turn the lights on or make a noise and it stops. Makes it so hard to find!!! It really is infuriating!
Cat K-2663 **$12.95**

4. Mini Stereo Amp
Want an amplifier for the 'walkie' stereo or radio? Don't be tied to 'phones: use this project and listen in comfort! Or you can build this into a mini PA amplifier. Cat K-2667
$18.65

5. Minder
C'mon Guvnor — leave the auto alone. That's the FunWay 3 Minder telling villians that it is looking after the car! It's actually doing much more — makes a great 'lights on' warning and 'door open' warning as well as a pseudo burglar alarm. Cat K-2660
$5.95

6. Mini Colour Organ
Your very own disco colour organ — but ours is battery operated — so it's much safer than mains devices! Connect it to your radio, cassette or stereo for a real lightshow!
Cat K-2664 **$9.95**

7. Combination Time Lock Switch
You can make a game — or make a real electronic 'lock' with this one. Use it to control an alarm, a door control, etc. You set the combination you want — or change it when you wish. Try and beat this one — if you can! Cat K-2666 **$12.95**

8. Lil Pokey
You'll have a ball with this one — and you don't risk losing a single cent! A digital project which not only shows how the one armed bandit works — it teaches you how logic circuits work, too. Cat K-2662 **$14.95**

9. Binary Bingo
A great school project: it's a fun game — but even more it demonstrates binary numbers very well. And they're the basis of all computers! It seems pretty simple to play... but try it! Cat K-2668 **$9.95**

FUNWAY 1 GIFT BOX

All the components AND FunWay 1 book in a great pack — everything needed to build any of the projects in Funway 1! PLUS our specially manufactured re-usable plastic 'breadboard' — a great way to build not only the FunWay 1 kits, but also to 'mock-up' other circuits as you become more experienced. AND EVEN MORE! Everything is housed in a multi-division plastic tray, which is fantastic for housing components in, both now and in the future. The FunWay 1 Gift Box makes an ideal birthday or Christmas present... and who knows: it could be the start of an absorbing lifetime hobby in electronics, or even an exciting career! Cat K-2605

Here's what you get:

• 24 resistors • 18 capacitors (including a variable type) • 2 transistors • 1 integrated circuit • 2 LEDs • 1 light dependent resistor • 1 diode • 1 potentiometer • 1 speaker • 1 ferrite rod aerial • 1 crystal earphone • 1 audio transformer • 1 battery clip • hook-up wire • baseboard • screws and washers • the re-usable plastic parts tray PLUS a copy of FunWay Into Electronics, Volume 1.

Parents Note: FunWay projects have been designed to be completely safe for even the youngest constructor. They are all battery operated and use no dangerous voltages or components.

$24.50 **Shipping weight: 850g**
Shipping size: 430 x 295 x 40mm

FUNWAY 2 GIFT PACK

Here's a gift bargain! Over $35 worth of value for less than $27! This gift pack has been specially selected for quality and for value.

You get:

- **A copy of FunWay Volume 2**
- **A quality DSE Soldering Iron**
- **A pack of solder**
- **A 9 volt battery.**

PLUS: A 'Wireless Microphone' Kit — by far our most popular FunWay kit! Give a FunWay 2 Gift Pack — it keeps on giving! Cat K-2620

$26.95

Shipping weight: 700g
Shipping size: 380 x 220 x 50mm

FUNWAY 3 BONUS PACK

And what value! Buy this kit with two of the most popular kits in the FunWay 3 book... and we throw the book in **FREE!** Yes, you get the Electronic Cricket project (known to his friends as Nocturnalis Stridulus Grilledae) plus the Miniature Amplifier project — together valued at $31.95 — and as a bonus, the FunWay 3 book itself at no extra charge! Fantastic gift idea... also makes ideal school project material. And with FunWay 3, you really move up into the electronics 'big time'. This fantastic bonus pack will get you started. Cat K-2670

$29.95

The FunWay to learn electronics... value plus gift packs!

FunWay 1, 2 & 3 Gift Box

Sensational value: contains two projects selected from each of the three popular FunWay kits... Over $90 value for only $54.95! This is one of the most inexpensive ways to learn about electronics... ideal gift for children because it entertains and educates. The pack contains all three books and a selection of the most popular and stimulating projects from each. Build a Flashing Brooch, Wireless Microphone, Cricket and Mini Amplifier plus much more! Cat K-2680

$59.95 **Shipping weight: 1.5kg**
Shipping size: 430 x 295 x 50mm

FunWay Jumbo Gift Box

Here's even bigger value! This pack isn't called the Jumbo pack for nothing: it's chocka-bloc with over 30 projects and a quality soldering iron to build them all. Almost $120 value at a price most parents can afford... and what price can you place on your children's future... This may be the best gift a parent can give. Cat K-2690

$99.95 **Shipping weight: 2.5kg**
Shipping size: 430 x 295 x 40mm

Yes, this IS the bottom of the page.

Quality simulated stereo from your VCR
Dynamic Noise Reduction System!

A simple inexpensive way to reduce hiss and add simulated stereo to your mono VCR! If you own a mono VCR you know that the sound quality is pretty lousy — but it needn't be. As most VCRs include an audio output socket which allows the sound to be routed to a stereo amplifier; that's the first step in improving the quality. Depending on the circumstances, the Dynamic Noise Reduction System (DNR) can provide up to an incredible 18dB improvement in the signal-to-noise ratio. Your ears won't believe the difference! What's more, it's easy to assemble and the setting up procedure is a snack.

How it works

As most background noise occurs at frequencies above 1kHz, it can be considerably reduced by filtering out these high frequencies. The DNR does this in such a way as to leave the program content largely unaffected. Using the LM1894 chip the DNR system continuously adjusts the bandwidth in response to signal amplitude and frequency content.

The result

Shhhh! We don't want to disturb the sound! Cat K-3423

$99

Shipping weight: 950g
Shipping size: 250 x 220 x 75mm

Teletext Decoder

Another money-saving kit from Dick Smith Electronics — bringing you the latest in technology at a fraction of the normal cost. Teletext — that mine of information given out free by a lot of TV stations — hasn't really taken off in Oz: mainly because of the cost of Teletext Televisions (most are around or over the big $1000 mark!) It's a pity, really because there is so much information available — and the system will expand greatly when there is more acceptance. Teletext information is transmitted during the otherwise 'useless' period between each TV frame (the black line you see with colours flickering if the vertical hold is out!) All you need is this adaptor to pluck out the information, and hold it for display on the TV screen. You can have Teletext only, or a mix of Teletext and picture, or even news flashes and, perhaps most important of all, captions for the deaf on many programs. We've kept the price way, way down by designing this Teletext converter to be used in conjunction with a VCR (or the TV tuner above!). Check with your local TV station(s) to ensure Teletext or captions are being transmitted before commencing construction! Cat K-6315

As described in EA

$269

Shipping weight: 3.7kg
Shipping size: 400 x 265 x 95mm

Teletext — without a VCR
Teletext Tuner

A great idea that can save you heaps! The Teletext Tuner can be built into your Teletext Decoder (Cat K-6315) so you don't need to own a VCR. So now anyone can have all the advantages of teletext — and it needn't cost the earth. It's easy to build and even easier to install. Tuning is simply a matter of turning the dial! Building it yourself is always fun — but seeing it work is even better. Kit comes complete with everything you'll need including comprehensive, easy to follow instructions with millions of diagrams and photographs so you're not likely to run into any hassles! Cat K-6319

Shipping weight: 1kg
Shipping size: 220 x 125 x 70mm

$149.50

Video Enhancer

If the sound of your VCR is crook what about the video! Especially when you're making copies of tapes (yes, the ones you shot yourself of course). Make sure you don't lose detail when dubbing: use the EA video enhancer. Very simple to use: all control is via one knob. And unlike most enhancers, you can cut as well as boost (ideal for softening harsh pictures). Cat K-3463

• 240 volt operated

As described in EA **$39.85**

UHF Masthead Amp

$99

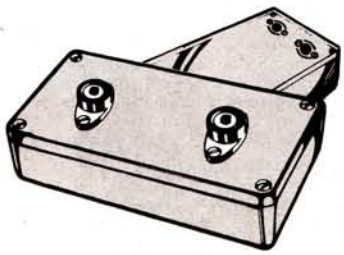
The old television on the fuzzy side? Do you get the impression that it's snowing in South Pacific? Does the picture give you the idea that you've had one glass too many? Don't adjust your glasses, don't attempt to alter your set — install a UHF Masthead Amp and the world could become clear again. Helps reduce snow and ghosting; you'll even be able to read the subtitles! Most masthead amps cover the VHF and FM bands only: this one goes right up to 850 MHz (top end of band V TV). Specifically cuts out below 500MHz to avoid front-end overload from local VHF TV stations. Easy to build and even easier to install. Comes complete with everything you need and full instructions. Cat K-3233

Teletext IR Remote Control

Remote control for your Teletext Decoder (K-6315) without messy leads or wires to conceal or trip over. Uses an amazingly small number of parts and it's easy to build! The IR Remote Controller duplicates ALL the control keys of the original Teletext decoder and only requires simple modifications. Lightweight with slim-line case it fits neatly in the palm of your hand. All this and a fantastic low, low price! Cat K-3425

Shipping weight: 305g
Shipping size: 190 x 135 x 65mm

$41.95



Poor TV signal area?
Build the
TV Masthead Amp (Mk2)

Don't put up with lousy TV (we can't do much about the content, but this should fix the pix!) Reduces or even eliminates snow, also great for reducing ghosting. Covers both UHF and VHF TV bands plus FM radio bands. Includes 240V supply in price. Cat K-3232

AS described in EA **$39.95**

Shipping weight: 1kg
Shipping size: 270 x 165 x 95mm

As described in EA

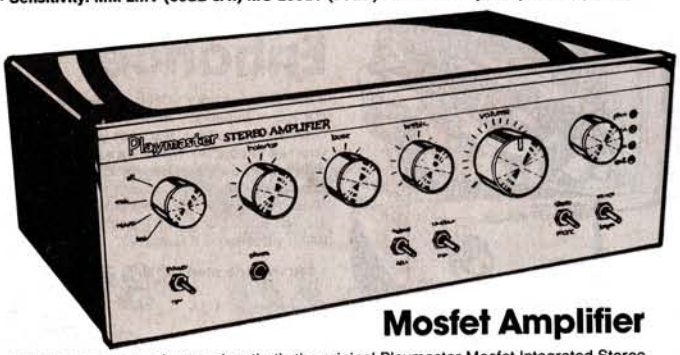
$499

Series 200 Hi-Fi Mosfet Amplifier

This is it! The magnificent Playmaster Series 200 Integrated Stereo Amplifier — almost certainly **the best** build-it-yourself design to be published **anywhere in the world!** Feature for feature, dollar for dollar, it more than stacks up against the 'big names' in hi-fi (the ones with the big price tags to match!). And it has features that aren't even found on many of the 'names'. Features like electronic input switching. Circuitry to handle just about every input imaginable: moving magnet, CD player, hi-fi VCR, cassette, tuner, etc etc etc. Plus, of course, incredible 'headroom' with 100 watts per channel output power. And much, much more! Despite its unbelievable level of performance, the Playmaster Series 200 is amazingly simple to construct: much, much simpler than previous kits. Gone are the days of tedious cable cutting, stripping, soldering and checking. The Playmaster Series 200 design has eliminated 99% of assembly problems. All potentiometers, input/output connectors, etc. mount directly on the pcb itself (parts specially sourced overseas just for this amplifier!). Cat K-3516

Shipping weight: 10.6kg Shipping size: 510 x 285 x 110mm

Outstanding specifications:
- **100W/channel into 8 ohms • Freq. resp. 8Hz-20kHz (-0.3dB) 2.8Hz-65kHz (-1dB0)**
- **Hum -100dB below full output • Unconditional stability into any load • RIAA equalisation within 0.3dB • Distortion <0.01% max (typical) 0.003% 20Hz-20kHz**
- **Sensitivity: MM 2mV (80dB s/n) MC 200uV (75dB) Line 300mV (90dB) CD 2V (94dB)**



Mosfet Amplifier

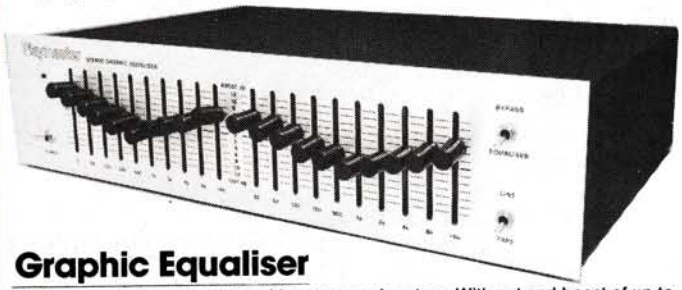
A little less power... a lower price: that's the original Playmaster Mosfet Integrated Stereo Amplifier, as described in Electronics Australia magazine. With a very respectable 45 watts per channel output (enough to blow your head off!) it has most of the features of its big brother above: all components are on a single pcb, which makes construction quite simple. And the sturdy chassis and solid heatsinking makes it ruggedly reliable. It includes integral speaker protection on board, along with fuse protection against massive overload. And our kit features a professionally designed front panel designed to suit today's modern hi-fi decor. Comprehensive step-by-step instructions are included — so you should get it going first time. And just in case you do get into trouble, this kit includes our exclusive 'Sorry Dick, it doesn't work' repair service coupon. Amazing value for an amplifier of such impressive performance: compare it with commercial amplifiers and you'll agree. Cat K-3515

$219

Specifications:
Power output: 45W into 4 ohms (both channels) 42W into 8 ohms
Frequency response: 30 Hz to 20Hz within 1dB RIAA Sensitivity: 2mV phono 190mV high level Hum and noise: 73dB phono, 80dB other inputs THD: 0.2% at full power 0.05% at normal listening levels Stability: Unconditional

Shipping weight: 6.25kg Shipping size: 400 x 260 x 125mm

As described in EA



Graphic Equaliser

Get total control and flexibilty with your sound system. With cut and boost of up to 13dB per channel you can make up for deficiencies in your listening area or sound source and even create special effects. (Big, booming bass: bewdy!) You can even make equalised tapes of those precious records. Features professional quality brushed aluminum front panel. Cat K-3500

$149

Specifications:
Freq. response (eg 'IN'): 10Hz to +/-0.25bd (-1db @ 20KHz)
Boost and cut: max. 12dB
Steps: 10 in each stereo channel (individually controllable).

As described in EA

As described in EA

Shipping weight: 6kg Shipping size: 400 x 265 x 90mm

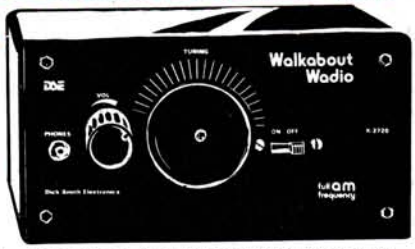
$259

IR Remote Control Preamp

Full command over your hi-fi system **Without** moving from your chair! The IR Remote Preamp comprises a complete preamp in which all functions can be selected by infrared remote control. And it's loaded with features! Plug it into your existing system via the tape monitor loop or use it with a power amp in a new system.
An incredible array of LEDs give you a constant status report on the entire system. The bargraph volume display automatically indicates bass, treble, balance (up/down) while these functions are being set — it then returns to the volume mode. All panels controls on the amp are pushbutton and the IR controller has 21 chrome plated buttons to select **all** the available functions. Sit back! Relax! Let your fingers do the working!

• 1V output suits most amplifiers. • 6 metre IR control range. • 8 pairs of RCA sockets for source connection. • 3-pin mains socket for powering an accomp. amp. • Functional design (353 x 231 x 63mm) amp. • Compact IR controller (136 x 70 x 27mm). • Phono, tuner, CD, Auxiliary and tape monitor outputs. • Source selection LEDs. • Status LEDs. Cat K-4003

Shipping weight: 3.35kg
Shipping size: 400 x 260 x 90mm



Wanda And Woam Wiv A... Walkabout Wadio

This portable radio kit puts the life back into AM reception! Using a cunning TRF circuitry system the original audio bandwidth transmitted by the station is largely maintained — AM comes alive! The project is inexpensive, uses a minimum of components and it's easy to build. Circuit provides an RF amplifier which delivers up to 120mV into 64 omhs to drive a pair of 32 omh headphones. As a result the circuit draws less than 3mA — so the 1.5V AA power source is likely to last up to twelve months. It's increwible value. Weally!! Cat K-2720

Shipping weight: 6g
Shipping size: 63 x 132 x 185mm

As described in ETI

$19.95

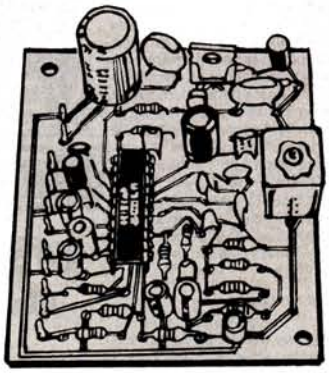
AM Stereo Decoder

Best results are obtained using synthesised tuners

$32.95

As described in EA

There's no need to buy a new receiver to enjoy stereo sound. DSE's AM Stereo Decoder Kit can be built right into your tuner for full stereo output. And you build it yourself and save $$$! Features Motorola MC 13020P integrated circuit. Provides excellent stereo by taking the AM IF amp output, decoding the C-QUAM singal and providing left-right channel audio outputs. Cat K-3415



Shipping weight: 6.3kg
Shipping size: 400 x 260 x 125mm

Stereo Simulator II

Wish those old video movies had modern stereo sound? This low-cost gadget turns almost any mono signal into amazingly good synthetic stereo! Cat K-3421

As described in EA

$24.95

Shipping weight: 525g Shipping size: 185 x 135 x 75mm

With this great little kit you can sound like a Dalek, Darth Vader, a Cylon, or any one of a dozen robotic spin-offs! A versatile unit, it may also be used for special effects on electric guitars and other musical equipment. Cat K-3509

$37.95

Shipping weight: 275g Shipping size: 185 x 135 x 65mm

Kits

AM/FM Digital Tuner and Clock

NEW FOR 87

One of our most popular kits of the past — now up-graded with a superb new tuner and a smart new appearance. The Playmaster AM/FM Tuner offers performance equal to (or better than) commercial units costing $$$$ more. But there's more to the new Playmaster AM/FM Tuner: it's also an accurate digital clock. So when you're not displaying the station frequency — you display the time! Cat K-3501

Frequency Range: AM Band: 530-1600kHz
FM Band: 88-108MHz

$229

Beat Triggered Strobe

What's better than a strobe for parties? A beat triggered strobe! Really makes your music come alive by flashing in time with the music — hence the name. Of course, you can also use it in conventional strobe mode — with a variable flash rate up to about 30 flashes per second. Also used extensively by photographers to 'freeze' action (how else do you take a picture of a hummingbird in flight?). Kit includes spun aluminium photo reflector with safety perspex guard, plus super long life discharge capacitors. Cat K-3153

Shipping weight: 1.8kg
Carton size: 200 x 200 x 225mm

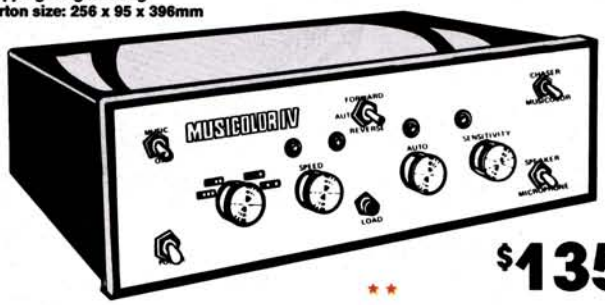
$59.95

LAST YEAR'S PRICE!

Musicolour IV

What's better than a colour organ and chaser? The Musicolour Mk IV: it combines both in one unit! Four chase patterns plus auto chase and reverse chase AND four channel colour organ with built-in microphone (no connection to speakers necessary!) means you're ready to stage a lightshow! Comes with sturdy steel case (beware of other kits in plastic cases — they won't last the distance!) and exclusive DSE front panel with LED display. Detailed instructions supplied, too! Cat K-3143

Shipping weight: 1.2kg
Carton size: 256 x 95 x 396mm

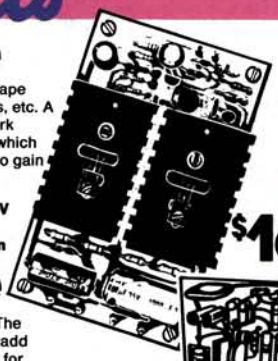


$135

20W Module

A general purpose amp as used in television, tape players, musical instruments, sound projectors, etc. A handy device for any hobbyist to add to his work bench. Uses discrete transistors for reliability which provide the ideal opportunity for the hobbyist to gain an understanding of how an audio amp works. Cat K-3445

Supply voltage (power output): 35V (19W), 30V (12W), 20V (6.6W) **Shipping weight: 150g**
Pack size: 100 x 175mm



$16.95

50W Module

Incredibly reliable — yet very simple to build. The complete amplifier on one pcb — all you do is add a heatsink, connect to power... and go! Perfect for band use, PA, even as half a stereo pair (performance is that good!). Heatsink brackets included ready to bolt onto suitable main heatsink. Cat K-3440

$22.95
As seen in ETI

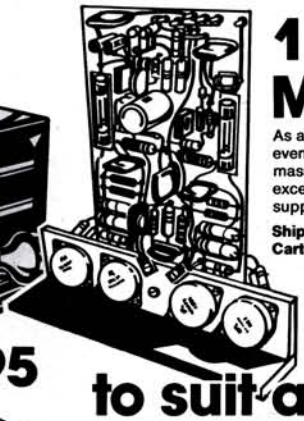
Power Output: 50 W into 8 ohms
Supply Voltage: 33V @ 1.2A Response: 5Hz to 50kHz (+0,-3dB) **Shipping weight: 200g**
Noise Level: -100dB Sensitivity: 500mV **Pack size: 100 x 185mm**

100W Module

As above, but double the output. Use two for stereo, or even use in bridge for double output! (Get up to a massive 200W output!) Specifications similar to above except for power (100W into 4 Ohms) Sensitivity (1V) and supply (33V @ 2.4A) Cat K-3442

Shipping weight: 207g
Carton size: 150 x 110 x 60mm

$29.95
As seen in ETI

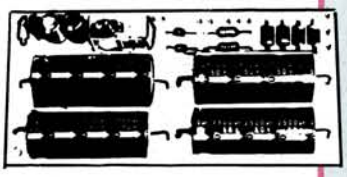


Power Supply to suit above modules

The electronics to suit either two 50 watt modules or one 100 watt module, including speaker de-thump circuitry but **not** including transformer. Choose the transformer according to the number of modules and power output required. Cat K-3438

Shipping weight: 173g
Carton size: 160 x 90 x 30mm

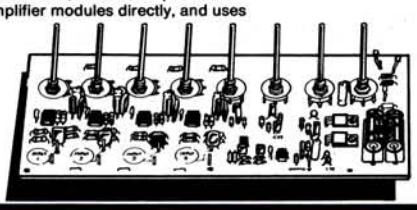
$23.95



Mixer/Preamp Module

Perfect for band use — or any general purpose mixing application. 4 inputs allow virtually unlimited choices: guitar, mic, organ, line inputs, etc, with each input fully adjustable for gain and impedance. Also includes bass, treble and "presence" control. Drives any of above amplifier modules directly, and uses same power supply. Cat K-3036

Shipping weight: 175g
Package size: 100 x 175mm

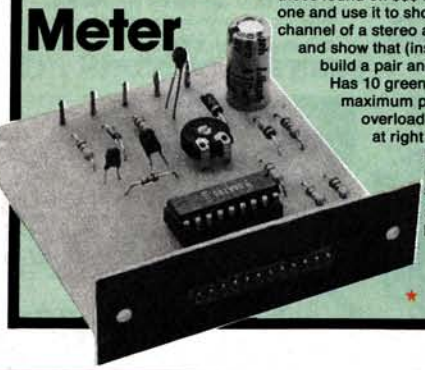


$59.95

LED Level Meter

Here's the one the beginner can build — and add to a mono or stereo amplifier to give a level meter just like those found on $$$ imported amplifiers! You can build one and use it to show either a mono amp, one channel of a stereo amp or sum the channel outputs and show that (instructions show how). Or you can build a pair and have a true stereo level meter. Has 10 green LEDs for display, one yellow for maximum power indication and one red for overload. PCB is designed to have readout at right angles for easy mounting. Requires 10-16V at around 50mA (usually taken direct from preamp supply). Cat K-3370

Shipping weight: 75g
Package size: 100 x 75mm



$18.95

Stereo Preamp

The amazingly versatile unit can be built as a magnetic cartridge preamp (for upgrading your stereo), a tape preamp or an auxiliary preamp with 40, 55 or 80dB gain. It is extremely simple: uses only one special IC and is very small, all parts fit on a PCB less than 65mm square. It does not need a special power supply as any reasonable power supply from 10 to 40V will do. Frequency response is well beyond 20kHz. Full instructions are supplied. Cat K-3427

Shipping weight: 50g
Package size: 140 x 100 x 20mm

$9.45

HF Amateur Transceiver

Not only do you build it yourself and $ave, you build it yourself and LEARN! How long has it been since you built a good piece of home brew? How many of those forgotten skills — soldering, component identification, alignment and so on need sharpening? Build this HF transceiver! It will give you any 500kHz segment between 2 and 30MHz — with commercial quality specs to boot! Everything is included — case, silk-screened panel, all components, even a microphone — PLUS our special step-by-step instruction manual to make it just that much easier. Cat K-6330

Specifications:
Frequency: Any 500kHz segment between 2 and 30MHz (See below)
(80 metre module supplied with kit)
Modes: LSB, USB, CW
Supply: 13.8V DC, 4.5A max on transmit
Bandwidth: +/-8kHz (-25dB)
Sensitivity: 0.3uV (10dB S+N/N)
Selectivity: 6dB @ 4kHz, 60dB @ 7kHz
Image rejection: better than 50dB
Power Output: 30W PEP, 15W CW
Harmonic suppression: better than 60dB
Transceiver Size: 175 x 210 x 55mm
Shipping weight: 2.05kg
Carton size: 213 x 295 x 96mm

$349 ★★★ LAST YEAR'S PRICE!

STOCK AVAILABLE SOON

UPGRADE KITS:

Fit the upgrade kit you want to get the band you want! Each kit handles a 500kHz segment, more than covering the amateur bands with the exception of 10 metres (bottom 500kHz segment covered).

40 metres: Cat K-6332
20 metres: Cat K-6333
15 metres: Cat K-6334
10 metres: Cat K-6335

All one price $39.95 ea.

100W HF Linear Amplifier

NEW FOR 87

Designed for the HF Transceiver (above) but also perfect for use with a huge range of QRP commercial gear, in the range of 3 to 15 watts output. Based on 2SC2290 RF power transistors, it gives around 10 to 14dB gain so up to 100W output could be obtained from a very modest input. The circuit is wide band and has only 3dB drop-off at 28MHz. A switchable low-pass filter is included. Includes carrier-operated Rx/Tx switching. Cat K-6331

Specifications:
Frequency: All amateur bands from 2—30MHz
Output Power: 100W (CW & AM), 200W PEP (SSB)
Input Power: 5W max (CW), 10-15W PEP max (SSB)
Supply: 13.8V DC
Spurious: <-60dB
3rd Order IMD: <-35dB
Insertion Loss: <-0.5dB
Shipping weight: 2kg
Carton size: 255 x 120 x 190mm

$349 ★★★

Shortwave Antenna Kit

Why spend hundreds of dollars on a good receiver if you are only using a piece of string for an antenna? Get the best reception form your receiver with this high quality short wave antenna contains long wire antenna, lead-in, polyrope and egg insulators.

- **Designed especailly for DSE by short wave expert**
- **Complete and ready to assemble**
- **Needs no soldering**
- **Instructions included**

Cat K-3490
Shipping weight: 790g
Pack size: 300 x 375 x 30mm

$22.95 ★

DEGREE OF DIFFICULTY
* Beginner
** Intermediate
*** Experienced!

And now 6m:
the DSE Pathfinder

NEW FOR 87

To complete the fine family of DSE build-it-yourself transceiver kits, we present the all-new DSE Pathfinder. Offering commercial-quality performance on the 6m FM band at a fraction of commercial price, it's all ready for the next sunspot cycle (it's already on the way up!). With thumbwheel frequency selection, repeater splits built in and "S" metering too, it has the most-wanted features without the frills — and without the high price tag. And by building it yourself (from our detailed instruction manual included) you really save! Supplied complete with silk-screened front panel, all components, mounting bracket and microphone. Go on: give 6 a go — it's quiet without you there! Cat K-6350

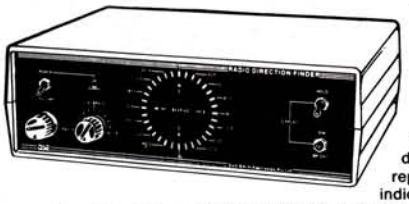
Specifications:
Frequency: 52 to 54MHz (complete FM section of 6m band)
Mode: FM
Power Output: 10 watts
Receiver Sensitivity: 0.5uV for 12dB SINAD
Channels: 400 (+5kHz switch included)
Repeater Offset: 1MHz
Transceiver Size: 175 x 210 x 55mm

STOCK AVAILABLE SOON

$249 ★★★

Radio Direction Finder

Great news for radio amateurs, CB operators and marine enthusiasts! The DSE radio direction finder kit is real value for money! When coupled with a suitable FM receiver it rapidly indicates the direction of the RF signal being received. The system employs an electronically 'rotating' antenna to produce frequency modulation by Doppler shift. A positional display is derived from the received signal by digital phase detection. 32 LEDs representing the 32 points of the compass, indicate the direction of the received signal.



The kit is relatively easy to assemble and can be constructed by anyone with an intermediate level of electronics knowledge. Cat K-6345

$149 ★★

Shipping weight: 1.95kg
Carton size: 293 x 213 x 96mm

For the UHF or VHF transceiver:

13.8V 2A Power Supply

$49.95 LAST YEAR'S PRICE!

Matching supply for the Explorer UHF or Commander VHF transceivers. Built in the same style, supplies 13.8 volts regulated at 2 amps continuous. The perfect way to complete your home brew station. Cat K-6310

Shipping weight: 1.89kg
Carton size: 220 x 245 x 72mm

★★

VK Powermaster

Huge 25A peak with suitable transformer! That's power... and it's simple to build. For HF gear, linears, and so on, this one has the oomph you need. Short-form kit: you choose the transformer you want to suit the output required: Cat K-3448

M-2010 transformer gives 14A continuous
M-2000 transformer gives 6A continuous
Shipping weight depends on transformer
Carton size: 230 x 385 x 160mm

$129.95 PLUS TRANSFORMER

★★

Variable Power Supply: 30V/1A

Ideal for laboratory, amateur/experimenter or technician use. Adjustable up to 30 volts at up to 1A — very handy! Includes full metering and overload protection. Cat K-3475

Shipping weight: 2.3kg
Carton size: 213 x 293 x 96mm

$64.95 ★★

Kits

DSE Commander: 2m Amateur Transceiver

By far our most popular amateur kit: well over 2000 sold throughout Australia and New Zealand — and now a popular kit in the USA too! Far better than buying a ready-built 2m rig: the specs more than match most commercial transceivers costing two, three and more times the price. And it covers the full 144 to 148MHz 2m amateur band, including standard repeater offsets (+/-600kHz) built in. Again matching the style of our other amateur transceivers, the Commander comes complete with microphone, mobile mounting bracket and full construction manual. Nothing more to buy to get you onto 2m! Cat K-6308

$199

Specifications:
Frequency: 144-148Mhz in 10kHz steps (5kHz offset)
Mode of operation: FM
Supply req: 13.8V DC 2.5A (15W output)
Receiver: Dual Conversion Superheterodyne
Sensitivity: 0.5uV for 12dB quieting
Selectivity: Better than 60dB at ±25kHz
Power output: 10W nom, 15W max
Complete with full repeater capability (+/-600kHz)

Transceiver size: 175 x 210 x 55mm
Shipping weight: 1.6kg
Carton size: 213 x 293 x 96mm

DSE Explorer 70cm Amateur Transceiver

The original — and still one of the most popular kits. 70cm is less crowded — there are less mugs and yahoos — so many amateurs prefer to work the UHF band in peace. The DSE Explorer is the perfect, low cost way to do it. And another big advantage of this kit is it really teaches you to be a good constructor: UHF is not at all kind to sloppy work so if you want the kit to give optimum performance, your workmanship has to be pretty good. An extra bonus is the repeater upgrade kit — originally a $25 extra, it's now included FREE with the Explorer kit, giving you access to the 70cm repeaters, PLUS S-meter and an additional crystal filter. Cat K-6300

$199

Specifications:
Frequency: 438.025-439MHz in 25kHz steps
No of channels: 40
Mode of operation: FM
Supply req:13.8V DC 2A (5W output)
Receiver: Dual Conversion Superheterodyne
Sensitivity: 0.4uV for 20dB quieting
Selectivity: -6dB 7.5kHz; -60dB 15kHz
Adj. chan rejection: Better than 80dB
Power output: 5W (typical)
Transceiver size: 175 x 210 x 55mm
Shipping weight: 1.5kg
Carton size: 213 x 293 x 96mm

100W VHF Linear Amplifier

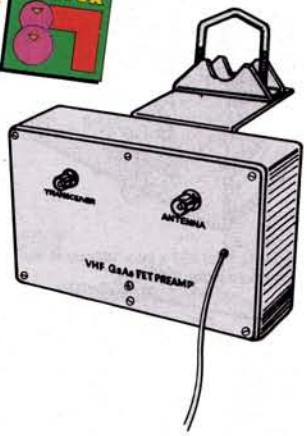
Cut through the noise on 2 — and put out a whopping signal with this one. 100W continuous output (in fact, 120W with 15W in!) And from only 2W drive you'll still get a healthy 40W + out. Uses high quality co-ax relays for minimum noise and minimum loss. 13.8V DC required at 15A for maximum output. Cat K-6313

Shipping weight: 2.1kg
Carton size: 293 x 213 x 96mm

$249

NEW FOR 87

2m GaAsFET Preamp



When you're scratching for that last femtovolt, a low-noise GaAsFET preamp could be just the answer. The big advantage (especially for satellite work) is the low noise: under 1dB — with around 15dB gain (at 146MHz). It's designed to mount up the stick — where it should be — with hardware supplied. Also supplied are low-loss co-ax relays, the diecast box... everything! Cat K-6311

Shipping weight: 1.2kg
Carton size: 267 x 160 x 90mm

$129 LAST YEAR'S PRICE!

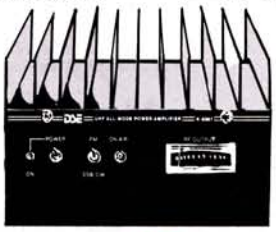
UHF All Mode Power Amplifier

NEW FOR 87

50 watts out from just 2 watts of drive? Sounds too good to be true! 14dB gain with a 10MHz bandwidth — and you can internally adjust the centre frequency anywhere from 430-480MHz. All harmonics and spurii are at least -60dB. Includes carrier detect switching with coax relays for minimum noise & loss. Input SWR typically less than 1.2:1 and insertion loss (bypass) less than 0.9dB. Cat K-6307

Shipping Weight: 1.5kg
Carton Size: 293 x 213 x 96mm

$279



70cm GaAsFET preamp

Like its 2m brother, the UHF GaAsFET preamp will pull in signals you didn't even know were there! Wide bandwidth and low noise (60MHz; 1.5dB typ) ensure optimum performance with receivers or transceivers. Handles up to 50W CW switching — - designed for masthead use (full mounting kit included). Requires only 12V DC @ 400mA. Cat K-6309

Shipping weight: 1.25kg
Carton size: 160 x 267 x 90mm

$129 LAST YEAR'S PRICE!

Bipolar UHF Preamp

Based on BRF91, ultra-small board fits inside transceiver or receiver. 2dB or better noise figure, bandwidth 400 - 500MHz. Cat K-6306

Shipping weight: 60g
Pack size: 100 x 175mm

$21.95

2m Yagi Kit Antenna

Build it yourself and save! 10dBd gain with 9 elements, pre-drilled for easy — and consistent — assembly. No tuning hassles, no problems! Cat K-6297

Shipping weight: 1.85kg
Carton size: 3m x 1cm

LAST YEAR'S PRICE!

$89.95

70cm Yagi

13 elements give around 11dBd gain — and it's all pre-drilled so it's dead simple to build. Covers full band — 420 to 450MHz. Cat K-6305

Shipping weight: 1.05kg
Carton size: 2m x 3cm

LAST YEAR'S PRICE!

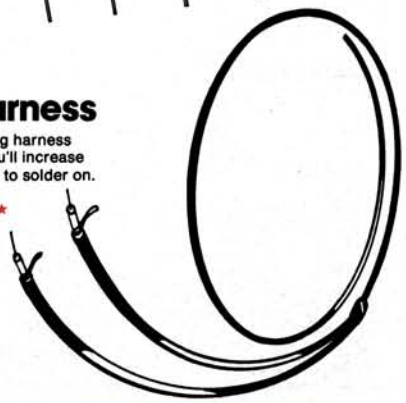
$29.95

2m Phasing Harness

Want to stack the yagi? The phasing harness does it for you — correctly. And you'll increase gain by around 3dB. Pre cut, ready to solder on. Cat K-6296

Shipping weight: 313g
Carton size: 440 x 100 x 40mm

$12.95

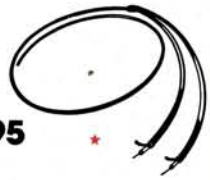


UHF Phasing Harness

Connect two antennas to one feed line for stacking, etc. 3dB gain. Ready to solder in position. Cat K-6299

Shipping weight: 131g
Carton size: 300 x 100 x 40mm

$10.95



UHF CB Yagi Too:

Similar to above, but designed for 470MHz UHF CB. Similar figures as UHF amateur Yagi.

UHF CB Phasing Harness

Cat K-6298

$10.95

UHF CB Yagi

Cat K-6304

$29.95 LAST YEAR'S PRICE!

1GHz DFM for under $300: Complete!

NEW FOR 87

Yes, it's true. A 1GHz (that's 1000MHz just in case!) digital frequency counter with typical sensitivity of around 20mV — and even more, it's delightfully simple to build! Based on the very latest technology LSI chips, this outstanding design features specifications at least the equal of commercial units costing many times the price. And even more, it looks good — again,the equal of commercial units. The tried-and-tested twin pcb construction technique is used to virtually eliminate the chance of wiring errors — placing this kit firmly into the "hobbyist" category. You don't need an electronics degree to put it together! Cat K-3437

Features:

- **Everything included — nothing extra to buy.**
- **8 digit LED display**
- **Silk-screened pre-punched front panel**
- **Housed in quality instrument case**
- **Mains power supply included**
- **3 ranges cover 20Hz to 1000MHz**

$259

As described in AEM

* * *

Specifications:

Ranges	Gating Time	Resolution	Input Impedance	Input Sensitivity
20Hz to 10MHz	1s	1Hz	1M//50pF	40mV (typ <20mV)
20Hz to 80MHz	1s	10Hz	1M//50pF	40mV to 50MHz, 200mV above
30MHz to 1GHz	1.28s	100Hz	50 ohms	40mV to 50MHz, 20mV above

Readout Accuracy: +/- least significant digit, +/- timebase accuracy
Timebase Accuracy: +/- 1 part per million for 0 - 40°C ambient temperature
Maximum Input: 5V RMS on 10 & 80MHz, 5V p-p 1GHz input (optional 10V)

Shipping size: 245 x 72 x 220mm
Shipping weight: 1.1kg

3 Digit Counter

The most versatile counter circuit around — you can use it with a minimum of external components. Designed for maximum flexibility (display can be removed for external mounting and with a very wide operating voltage 5-15V). Cat K-3451

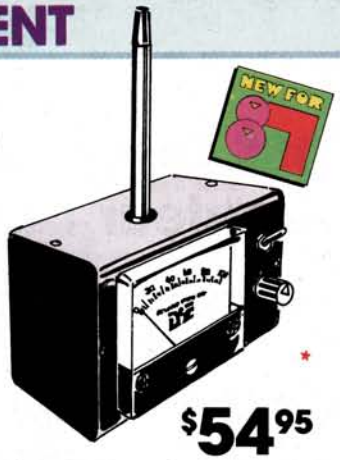
- **LED display**
- **Up to 2MHz counting speed**
- **Clock enable**
- **Wide power supply range**
- **Very comprehensive manual included!**

Shipping size: 100 x 175mm bag
Shipping weight: 107g

$29.95

Catch the bug! RF Field Strength Meter

NEW FOR 87



Amateurs, antenna installers, even security agents: measure relative RF strength quickly and easily with this kit. Countless applications: antenna radiation pattern checking, cable losses & leakage, checking transmitter operation... even "sweeping" for bugs! With a bandwidth of about 1GHz it's sure to find just about any source of RF. With a directional antenna you could use for fox hunting, pirate tracking, etc. Cat K-6321

Specifications:
Bandwidth: 3 to 1000MHz
Gain: Internal amplifier gain 100 times
Output: Meter shows relative field strengths

Shipping weight: 784g
Shipping size: 270 x 160 x 90mm

$54.95

RF Attenuator Box

Amateurs know just how valuable a good attenuator is... and how expensive they normally are! Here's value: up to 63dB attenuation (in 1dB steps from 0dB) from 50 to 500MHz — and it's $$$ less than equivalent commercial units. Just think of the uses:

- **Antenna gain measurement**
- **Fox hunts and radio direction finding**
- **Receiver/transmitter matching**
- **And countless other amateur/CB/ professional applications.**

NEW FOR 87

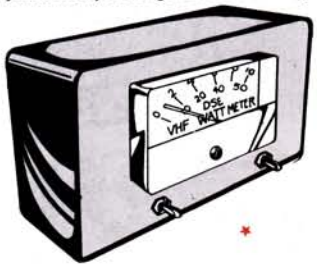
Rated at ¼ watt, with a 50 ohms input impedance. Connectors are standard BNC, so it is perfect for "in line" use. Cat K-6323

Shipping weight: 225g
Unit size: 195 x 60 x 40mm

$37.95

VHF Wattmeter

How efficient is your system? Here's an inexpensive way to measure your VHF power output AND the efficiency of your antenna system. Now you can get the most out of your equipment! It's relatively easy to assemble and also has a switch so you can measure the reflected power back from your antenna. Comes with attractive black anodised case and everything you need to complete the project. Cat K-6316

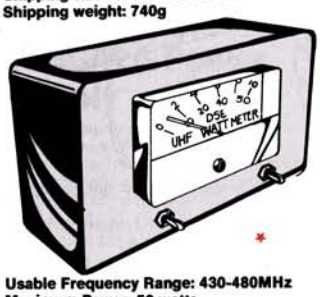


Specifications
Usable Frequency Range: 144-148MHz
Maximum Power: 150 watts
Ranges: 0-150 watts
0-30 watts
Accuracy: +/-10%
Impedance: 50 ohms
Directivity: >20dB
Insertion Loss: <0.1dB
Connectors: SO239

$49.95

Shipping size: 267 x 90 x 160mm
Shipping weight: 740g

UHF Wattmeter



Now there's an inexpensive way to check your UHF power output and the efficiency of your antenna system! Here's an easy to assemble wattmeter which not only measures the power output of your transceiver but also has a switch so you can measure the reflected power back from your antenna. Get the most out of your system! The kit contains everything you'll need and can be assembled in next to no time! Cat K-6312

Usable Frequency Range: 430-480MHz
Maximum Power: 50 watts
Ranges: 0-10 watts
0-50 watts
Accuracy: +/-10%
Impedance: 50 ohms
Directivity: >20dB
Insertion Loss: <0.1dB
Connectors: BNC

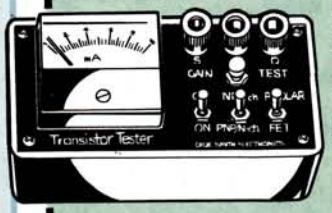
$49.95

Shipping size: 267 x 90 x 160mm
Shipping weight: 720g

Speedy fault finding

Transistor Tester

As described in EA



Not just another Transistor Tester! This one tests bipolar transistors, diodes, F.E.T.'s and even S.C.R.'s and P.U.T.'s. This practical low-cost test instrument is simple enough to be built by a beginner and then provide him with a valuable piece of test equipment. You can get experience in building, then use it to learn about the operation of semi conductors, or use it for more serious checking. Ideal for the beginner and serviceman alike, or in schools. Battery operated and supplied with one of our 50mm meters in a deluxe Zippy case. Cat K-3052
Requires 9V battery Cat S-3106 **$1.85 extra**

Shipping size: 185 x 63 x 132mm
Shipping weight: 350g

$29.95

Zener Diode Tester

Pretty specialised — but oh so handy! Essential for the service bench, perfect for the hobbyist too. Now you have no worries about all those diodes with markings rubbed off — is it a Zener or is it a signal diode? A must for those with poor eyesight! You'll get a direct readout — in volts — of the Zener voltage of 400mW and 1W Zeners from 3.3 to 50 volts (2 ranges). And it has external connection terminals for a digital voltmeter so you can get very accurate readings. If you're the type with a well-stocked junk box mostly full of unidentified junk, this is for you. And at our low price it will soon pay for itself! Cat K-3051

STOCK AVAILABLE SOON

NEW FOR 87

$29.95

Kits

Function Generator

with digital readout

As seen in EA

An essential piece of test and design gear for all hobbyists, amateurs, service technicians, engineers... produces sine, triangle and square waves from below 20Hz to 170kHz with a very wide range of output levels too. An ideal companion to our other build-it-yourself test equipment. Cat K-3520

CHECK THESE FEATURES:

- **Frequency range from below 20Hz to 180kHz in three ranges.**
- **Continuously variable output level from 3mV to 2.5V peak**
- **600 ohms (nominal) output impedance.**
- **Sine, triangle and square waveforms.**
- **Sine wave distortion of less than 0.7% at 1kHz; 1% at 10kHz and 2% at 100kHz**
- **Triangle wave linearity better than 1% at 1kHz.**
- **Square wave rise-time of 0.4us (6V/us at maximum output level).**
- **Negligible overshoot, droop or ringing.**
- **Readout accuracy +/-2% +/-one digit.**
- **Amplitude stability better than 0.1dB on all ranges.**
- **Power consumption of 7W at 240V AC.**

Shipping size: 245 x 72 x 220mm
Shipping weight: 1.2kg

$119

Turn your old TV into a CRO!

As described in EA

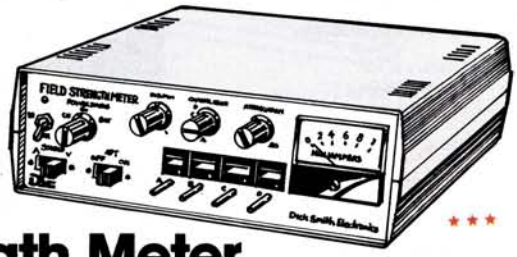
Got an old B&W TV gathering dust in the corner? Turn it into an audio CRO! That's right: this remarkable kit turns any surplus B&W (or even surplus colour) TV set into a 300kHz audio oscilloscope! It gives a good display at low frequencies, making it ideal for Hi-Fi and audio display applications. All it needs is 100mV to drive it to full screen deflection. The large screen size means that it gives a dramatic display: just think of the non-technical applications of such a device: promotions. Hi-Fi showrooms etc. If you can't afford a proper CRO — this could be the answer! Cat K-3060

Shipping weight: 550g
Carton size: 216 x 70 x 126mm

Yes, your own CRO for ONLY $39.95

NEW FOR 87

TV Field Strength Meter



Antenna installers... TV technicians... anyone with TV signal problems... here's the kit for you! Build this one and you'll be able to accurately measure the relative field strength of any TV signal — VHF or UHF — plus FM radio, etc. Far more accurate than usual methods because you can measure each channel individually — perfect for difficult TV reception areas requiring exacting antenna installation. Includes input attenuator for close-to-signal work. Cat K-6324

	Frequency range	Sensitivity
VHF	45MHz to 222MHz	10uV to 1V
UHF	526MHz to 814MHz	30uV to 1mV

Connector: 75 Ohm Belling-Lee type
Power: Internal batteries or external DC plug-pack*
* Batteries or plug pack not supplied with kit.
Shipping weight: 1kg
Carton size: 270 x 160 x 90mm

$54.95

NEW FOR 87

Radiation Indicator

NEW FOR 87

At last! An inexpensive radiation indicator kit that's ideal for experimentation, student needs, prospectors, greenies... Similar in performance to imported $500+ units, has three (switchable) ranges and measures both alpha and beta particles and indicates gamma rays. Small hand-held unit is ideal for field trips — and you don't need a 10 ton truck to cart it around like the geiger counters of yesteryear! Cat K-3470

- **Meter, audible and LED output**
- **Complete with specially moulded ABS case.**

Unit size: 145 x 40 x 70mm

$79

Switchable Autotransformer

NEW FOR 87

Service technicians will tell you a variable transformer is an essential piece of test gear... but they are very expensive! We've solved that problem — ours is switchable over a range of voltages (virtually anything you want) but avoids the complication of "continuously variable". And it has lots of other uses! For example overvoltage and undervoltage adjustments (ideal for farms, isolated communities etc where regulation suffers because of the long lines — sub 200V or 260V + is common). Or operating 110/117 volt devices from the 240V mains. Etc etc. Cat K-3053

Features:

- **90, 100, 110, 120, 130, 220, 230, 240, 250 & 260 volts output from 240V input.**
- **2A maximum load (500VA at 240V)**
- **Standard Australian 3 pin outlet plus US 2 pin outlet**

As described in ETI

$79

TV Pattern Generator

A build-it-yourself bargain for the serviceman

With just seven IC's you get three patterns: dot, crosshatch and blank raster. Not bad value, huh? An indispensable aid for the serviceman or hobbyist — and this one's small enough to carry around anywhere. Includes deluxe front panel and VHF modulator, Operates from plug-pack adaptor (9V DC). Cat K-3472

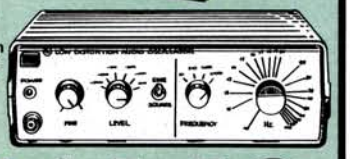
As described in EA **$34.95**

Shipping size: 185 x 63 x 132mm
Shipping weight: 260g

Low Distortion Audio Oscillator

NEW FOR 87

Comparable with the very best commercial units, at a fraction of their cost. With ultra-low distortion and both sine and square wave outputs, this fine piece of test gear would be at home in the best professional labs — and on the hobbyist's workbench. In fact, EA rate an audio oscillator as "second only to the multimeter for the laboratory or home workshop". Cat K-3470



Features:

- **10Hz to 100kHz in four ranges (cont variable)**
- **Output level 3V rms maximum**
- **Attenuation -50 to 0dB in 6 ranges (cont variable)**
- **Output waveforms sine and square**
- **Output impedance 600 ohms**

$149

R-L-C Bridge

Measure the values of new and used components easily and simply. You can measure resistance, (10 ohms to 10 Meg-ohms), capacitance (10pF to 10uF) and inductance (down to a few hundred microhenries).The RLC bridge does more than a multimeter, and is easy to use. The complete kit of parts includes a specially printed front panel. **Battery not supplied.** Cat K-3468**

As described in EA

Measures unknown components

$59.95

Shipping size: 267 x 90 x 160mm
Shipping weight: 700g

Save by installing your own alarm...
Save even more: Build Your Own Alarm!

At least the equivalent of commercial units costing $$$$ more! All the features you need for complete protection — perfect for home, office, factory, etc. Cat K-3424

- 2 instant & 6 delayed sectors
- Security key operation
- Inbuilt mains supply & battery back-up
- Siren driver, relay (bell) output
- And much more!

Complete kit including case and all electronics:
Shipping weight: 3.85kg
Carton size:320 x 185 x 235mm

Back-up battery to suit:
12V 1.2Ah Gell Cell Cat S-3315

$169 **

As described in EA

Alarm Sensors

All DSE kit alarms work with standard security sensors (reed switches, passive I/R, pressure mats, etc etc). See our range of alarm sensors and accessories on pages 84 — 87.

Very latest IC technology Optical Motion Detector

Use as part of an alarm — or as a door minder, etc. A special optical IC actually detects movement by change in light level. Two modes — "guard" for sensing movement, and "search" for beam cutting operation. Self contained (battery operated). Cat K-2721

Shipping weight: 275g
Carton size: 130 x 70 x 40mm
As described in ETI

NEW FOR 87

$29.95 *

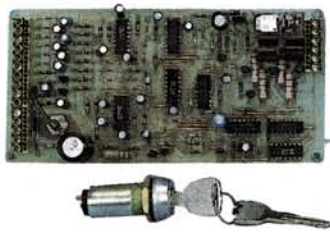
Deluxe Car Alarm

Superb protection for your car. One of the best alarms around — even better than most commercial units. Build this and your car shouldn't join the 70,000 or so stolen each year! Cat K-3252

- **Delayed and instant alarm inputs**
- **Provision for back-up battery**
- **Siren output (doesn't rely on vehicle horn)**

Shipping weight: 2kg
Carton size: 225 x 200 x 225mm

As described in EA



$79.95 *

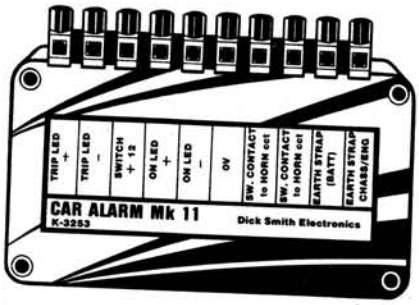
Car Alarm Mk II

An economy alarm for your car — with all the right features! Specially developed to minimise false triggering — but highly sensitive to any electrical use within vehicle (starter, brakes, internal lights, etc). Housed in a virtually waterproof die-cast box to minimise ingress of fumes, moisture, etc, with terminal block for easy connection to vehicle. Cat K-3253

Shipping weight: 650g
Carton size: 185 x 63 x 132mm

As described in ETI

$39.95 *



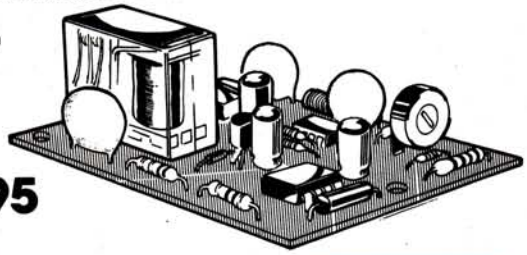
Budget Car Alarm

Low cost protection — that works! Stripped to the "bare bones" this single pcb alarm senses voltage drop in your car's electrical system. hide it virtually anywhere you like — it's easy to install and even has a visual warning for thieves. Cat K-3250

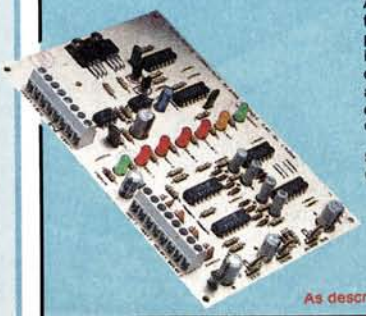
Shipping weight: 75g
Bag size:100 x 175mm

As described in ETI

$16.95 *



4 Sector Home Alarm



A "bare bones" alarm controller without the frills — and with a really low price tag. The perfect alarm for anyone wanting to "build it in". 4 sectors means a complete home or office system can be built around it. Ready to assemble, complete with on-board pcb connectors. Requires 12V DC @ 500mA. Cat K-3254

Shipping weight: 220g
Carton size: 173 x 65 x 102mm

$29.95 *

As described in ETI

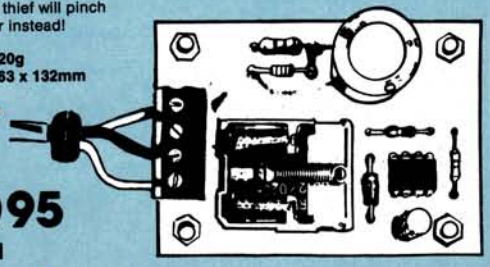
Ignition Killer

Nothing's more frustrating than a car that doesn't go. And imagine how much more frustrating a thief finds it! This ingenious circuit makes the ignition mis-behave — the theory is the thief will pinch someone else's car instead!

Shipping weight: 320g
Carton size: 185 x 63 x 132mm

As described in EA

Cat K-3255

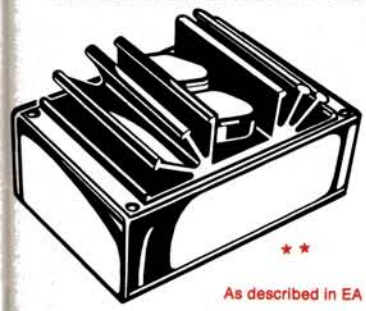


$22.95 *

We accept Bankcard, Visacard, Mastercard, Amex... even cash!

Kits

Transistor Assisted Ignition



Electronics Australia's high energy version of their previously incredibly popular kit. Now gives even better performance than before with circuit mods enabling high efficiency and stability, plus special radial fin design heatsink and die-cast box to dissipate unwanted heat. Ideal for use in all conventional ignition vehicles (doesn't work too well on diesels!) Cat K-3301

- Eliminates 'crossfire' problems on older 'CDI' circuits
- Dwell extension gives longer, hotter spark
- Compatible with modern electronic tachos

As described in EA

$39.95

Shipping weight: 750g Carton size: 216 x 70 x 126mm

LED Tacho

Don't spend a fortune buying a tachometer — build your own and save! Displays engine speed in an analogue form in an illuminated row of LED's. Instructions included — a great kit! Cat K-3240

$26.95

Shipping weight: 160g
Carton size: 178 x 105 x 60mm

Microwave Leakage Detector

Microwave ovens are fantastic — but are they completely safe? Yours could be leaking dangerous radiation! Check it out with this handy meter. No batteries required. Cat K-3095

$17.45

Shipping weight: 152g
Carton Size: 175 x 105 x 60mm

Negative Ion Generator

Many people believe negative ions are good for you! We're not sure — it could be a placebo effect! Build one of these and you be the judge. It's a fraction of the price of commercial units — but includes all parts required, including the important ioniser needles. Cat K-3333

$39.95

Shipping weight: 550g
Carton size: 267 x 90 x 160mm

As described in AEM

Fluoro Starter

Do your fluorescent lights go blink, blink, blinkety blink when you switch them on? This substitute electronic starter solves that problem and gives a smooth rapid start EVERY time you switch on. And all the parts are housed in a standard starter case! Far outlasts conventional starters as well as prolonging tube life. Cat K-3082

$5.95

Shipping weight: 54g
Carton size: 200 x 90 x 25mm

As described in EA

Speed Controller

A completely new circuit offering unbelievably smooth control and torque — even at very low rpm. Yes, it's even better than the previous model! New design includes 'in line' plugs and sockets for extra convenience. Suits virtually all 'universal' (brush type) motors. Cat K-3084

$23.95

Shipping weight: 730g
Carton size: 190 x 70 x 130mm

Infrared 240 volt Controller

How many times have you wanted to switch a power point 'ON' or 'OFF' when it's across the room? Now you can switch any appliance virtually by pointing your finger! With this fantastic Infrared Remote Control Switch, you can switch on the TV, lamp, radio or many mains appliances without moving from the comfort of your bed or chair. The transmitter is housed in a specially designed case about the size of a matchbox — so it's easy to carry in your pocket or clip to your shirt or belt. It'll operate up to 12 metres from the switch and it's specially designed for minimum interference. Cat K-3428

Shipping weight: 720g
Carton size:267 x 90 x 160mm

As described in EA

$69.95

LAST YEAR'S PRICE!

Spare Transmitter for above:

Just in case you misplace one — or so someone else can have control! Same transmitter as is included in main kit. Cat K-3429

Shipping weight: 50g
Bag size: 100 x 175mm

As described in EA

$15.95

NEW FOR 87

Infra-red/Touch Light Switch

Whose turn is it to get out of bed and turn the light off? What a nuisance. Wouldn't it be great to turn it off (or on!) remotely? Introducing the DSE Infra Red Light Switch. Just aim the controller at the switch (a LED even shows you where in the dark!). OR touch the switch — it's both infra-red and touch controlled. Standard size plate simply replaces exsiting light switch. Also ideal for offices, displays, etc. Completely remote switching up to 500W. Cat K-3430

$79.95

Unit sizes:-
Plate: 117 x 73 x 30mm
Transmitter: 60 x 35 x 20mm

NEW FOR 87

What? They've changed the time?

The DSE Metric Clock

Imagine the looks on their faces when they see this one. It's a highly accurate digital clock. So what, you say? Take a look at the display. It's just a little different. This one displays metric time! As every good imperial pedant knows, metric weights and measure were just the "thin end of the wedge" Now metric time is here (it's actually three years late — it was supposed to start in 1984) you'd better learn it — or Big Brother will get you too.

Lesson 1:

There are 100 metric seconds to the metric minute.

There are 100 metric minutes to the metric hour.

There are 10 metric hours to the metric day.

Simple, isn't it. And the big advantage is that "AM" and "PM" are redundant — because there's no "M" any more! Pilots, amateurs, etc. who work in 24 hour time will now only have to work to 10.00.

Brilliant!

Now if all this has you confused, (eg how does it all work out?) no problem: the metric second has been shortened to allow it all to fit nicely. And the metric clock displays the correct time. Just in case there are some slow learners, the instruction book supplied with the metric clock has a complete imperial to metric conversion chart (eg 12 noon imperial time = 5.00 metric).

Still confused?

Build the kit and it will all be self-explanatory. Cat K-3000

Specifications:
- Mains operated
- 5 digit display
- Accurate to+/-5 metric seconds/metric day

Finished unit size: 175 x 210 x 60mm
Shipping weight: 1.5kg
Carton size: 293 x 213 x 96mm

$59.95

NEW FOR 87

Heathkits

NEW FOR 87

Heathkit: The best kits in the world!

Want the ultimate in electronic kits?

Heathkit is it!

And they're now available through Dick Smith Electronics in Australia and New Zealand.

Why Heathkit?

Simply because they **are** the best!

You've probably seen comments in the electronics mags about Heathkits — the range, the presentation, the packaging... but most of all, the manuals.

Heathkit go to an immense amount of trouble with their manuals — simply to ensure that you have none. Every step is carefully detailed and illustrated. Even component identification, soldering, and so on.

Hence Heathkit's motto: "We won't let you fail".

Of course, all this makes Heathkits a little more expensive than a plastic bag of bits. But then you get much more than a plastic bag of bits!

- Beautifully screened front panels
- Accurately made cases — most specifically for only one kit.
- Pre-drilled and punched holes
- Screened and solder-masked pcbs
- Special cables, connectors and so on
- And, of course, the Heathkit manuals!

And when you've finished, it will be difficult to distinguish between the kit you've made and commercial equipment costing many, many times more.

It **will** look so good **you** may not believe you built it yourself!

What Heathkits are available?

Almost all of them!

Around twenty of the most popular Heathkits will be stocked in the larger DSE stores. And the rest of the huge Heathkit range (excluding computers & some learning aids) is available through the DSE Heathkit Order Centre by sea or air direct from the USA.

You'll find the complete range in the Heathkit catalogue. If you'd like a free copy of the Heathkit catalogue (assuming, of course, there are some left!) ask your local DSE store or phone the Heathkit Information Line on (02) 888 2105.

Special Manual Preview Offer

It's difficult to order a kit sight unseen — even from a catalogue.

What if it's not what you want?
What if you think it's too hard for you? (it almost certainly won't be, but that's another story!)
What if...

Here's the special Preview Offer:

Buy a copy of the Heathkit Instruction Manual for that particular kit.

It will tell you everything you need to know: what it will look like, how to build it, how to troubleshoot it, any test gear you might need... everything.

When you go ahead and buy the kit, we'll give you half the cost of the manual back.

You can't lose! You **know** you're getting the kit you want because you've read the manual. And you get half the cost of the manual back again!

The kits shown below and on the next page are those normally stocked in larger DSE stores and the DSXpress Centre (phone toll free [008] 22 6610 or Sydney 888 2105).

If you cannot find one here that takes your fancy, have a look through the Heathkit Catalogue. There's certainly something there you'd like.

Conditions applying to specially ordered Heathkit products

(1) Any item from the Heathkit Catalogue, with the exception of computers and learning aids, may be ordered on an "indent" basis against a non-refundable deposit of 25%.
However, it should be borne in mind that many mains-operated kits will need an external 110V stepdown transformer, and some kits are specifically made for the US market (NTSC TV's and VCR's, etc) and will not work in Australia.

(2) Prices for products other than those shown on these pages are available from the Heathkit Information Line, ([02] 888 2105) and are current for 7 days from quotation. This is due to the volatile nature of international currencies and freight rates.

(3) Normal delivery time for seafreight from the US is 10 to 12 weeks from date of order. Air freight is available at additional cost (call [02] 888 2105 for details) and this should reduce delivery time to approximately 5 to 8 weeks.

(4) Items ordered from the US do not qualify for our normal 14 day satisfaction guarantee. It is essential that the customer determines the exact product before ordering. (Use our special half price manual offer!)

(5) Orders will be accepted by the DSXpress Orderline on (008) 22 6610 — a toll-free call from anywhere in Australia, (Sydney [02] area: 888 2105); or via any of our normal order methods — mail, fax, telex, Bulletin Board, etc.

Everybody's HERO!

The robot of the future is here today. It's Hero Jr — from Heathkit, of course. More than just a robot, Hero Jr will become a real member of your family. He (she?) is pre-programmed: Hero Jr will wake you up (even listen to make sure you're awake!), remember dates and anniversaries, walk, talk... protect you and your home (it can even activate the optional Heath Security Centre) and much more. You can program Hero Jr to perform a myriad of tasks for you — with either its own keypad or with your own home computer (using the optional RS232C link, BASIC cartridge, terminal emulation software and cartridge adaptor). Of course, Hero Jr is battery operated (rechargeable) and comes with a recharger (240 to 115V stepdown transformer required). How much for all this wizardry? Cat G-1005

$1395

Shipping weight: 14.6kg

(Built up version of Hero Jr also available. Cat G-1000 *@ $1995)* **Shipping weight: 15kg**

Other HEROs:

Don't forget Heath's other HERO models. You'll find them in the Heath catalogue. For pricing and any other information, call the Heath Hotline (02)888 2105.

Accessories:

Infra Red Motion Detector

(for security applications) Cat G-1010 **$399**

RS232 interface

(re-program hero from your own computer) Cat G-1030
Shipping weight: 450g **$179**

Cartridge Adaptor

(for plug-in command cartridges) Cat G-1050
Shipping weight: 450g **$179**

Special Occasions cartridge Cat G-1045 $69

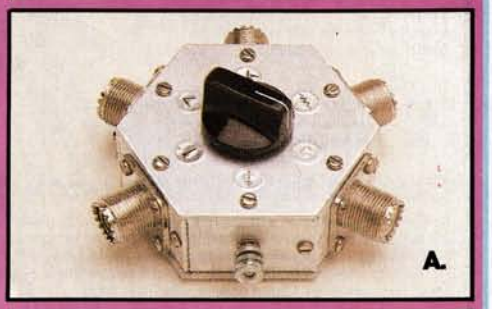
BASIC Cartridge

(Robotics Oriented BASIC Language — use when reprogramming with your own computer). Cat G-1080
Cartridges (each) **$179**
Shipping weight: 450g

Spare Batteries $69

(set of 2 rechargeable) Cat G-1040
Shipping weight: 2.3g

Heathkits



4-Way Coax Switch A.

Why swap leads around madly? Switch between antennas with this quality coax switch. handles 2kW PEP with a maximum 1.1:1 SWR to 250MHz. Grounds unused antennas. Cat G-3010

Shipping weight: 450g **$69.95**

Cantenna B.

1kW dummy load in a 4 litre can. Less than 1.5:1 VSWR up to 450MHz: ideal for on-air testing or alignment without any RF getting out. Needs 4 litres transformer oil (not supplied). Cat G-3015

Shipping weight: 1.4kg **$54.95**

Audio Signal Generator

An economical piece of test gear that you'll find essential for audio and digital circuits. 10Hz to 100kHz frequency range with both sine and square wave output. Battery operated (2 x 9V batteries, not inc.) Cat G-4010

Shipping weight: 2.2kg
Unit size: 146 (h) x 280 (w) x 200 (d) **$159.95**

The Ultimate Weather Station L

Don't settle for second-hand news! Get important weather information fast with Heathkit's Computerised Weather station: **wind speed and direction • chill factor • barometric pressure.** Cat G-2000

Shipping weight: 6.8kg **$1100**

The Lazer'll Amaze ya! C.

Schools, colleges, clubs: here's the perfect way to find out all about the laser. The laser trainer includes a HeNe gas laser with modulator, also includes a receiver for detecting the beam and amplifying sound. Cat G-2020

Shipping weight: 11kg **$799**

Signal Tracer for easy repairs D.

Check out RF, IF even audio circuitry quickly and easily. Trace through until you find the fault. A must for the work bench. Cat G-4015

Shipping weight: 2.3kg **$189.95**

FM Deviation Meter E.

Work with FM? You need this one. Deluxe deviation meter accurately and quickly checks deviation from 2 to 75kHz, over the range of 25 to 1000MHz. No more reports of "over deviation, om!" — you can even leave this in line for continuous checks. Cat G-4000

Shipping weight: 3.2kg **$550**

Active Antenna F.

Just right for the SWL with no room! HF preamplifier with its own inbuilt whip antenna and provision for external 50 ohm antenna. Operates from 300kHz to 30MHz. Cat G-3005

Shipping weight: 2.3kg **$199**

Ultrasonic Cleaner G.

At last! Clean virtually anything (up to 150mm x 100mm) ultrasonically: it actually vibrates dirt, stains and undissolved solids away! Use on components, jewellery, coins... even dentures! Uses ordinary laundry soap or softener. Cat G-2010

Shipping weight: 2.3kg **$299**

Hobbyist's R-L-C Bridge can $ave your money!

Your junkbox is probably chocka with unmarked components. Don't throw them out — or buy new ones: Check them with this R-L-C bridge. Put it together in about 4 hours — and start saving! Resistance: 10 ohms to 10M. Capacitance: 10pF to 10uF. Inductance: 10uH to 10H. Cat G-4025 **$199**

Digital Readout of Unknown Components H.

Imagine: just plug in any unknown L or C and get an instant readout. Why throw away components? Also ideal for tolerance sorting, checking losses & dissipation, and so on. Range is massive: 1pF to 2000uF; 1uH to 2000H. Cat G-4020 **$725**

Shipping weight: 5kg

RF Generator J.

Economical test gear — that really works well! Modulated and unmodulated signals from 310kHz to 110MHz — with calibrated harmonics to 220MHz. A must for every service shop — or for the serious hobbyist. Cat G-4005

Shipping weight: 2.3kg **$199**

Deluxe Antenna Tuner K.

Exactly match your antenna system to your transceiver: minimise losses, maximise efficiency. The Heathkit Antenna Tuner features very high power handling (1kW CW) over the full HF bands, with roller inductor, dual watt-meters and built-in 4:1 balun. Cat G-3000 **Shipping weight: 9.1kg** **$885**

Need 115 volts?

Our M-1156 stepdown transformer is ideal for powering many of the Heathkit projects that require 115 volts. 240 volts input, 60VA capacity. Fully enclosed for safety, fitted with US style 2-pin socket. Cat M-1156 **$69.95**

Shipping weight: 3kg

Famous Piergiacomi Hand Tools... Now available from DSE!

NEW FOR 87

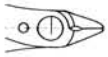
Around the world, Piergiacomi tools are known for their outstanding quality and reliability. They're the choice of professionals — and now DSE has available this superb range. Expensive? Yes, they do cost more than our hobbyist range: but once you feel the quality, feel the precision, you'll realise they're worth every cent! There's a Piergiacomi for every purpose... all tools feature heavily insulated handles with sprung action blades and locking bush.

PIERGIACOMI SUD
MADE IN ITALY

Cutting Nipper with back-angled cut

Designed especially for pcb soldering work. The cutting edge is on the opposite side to normal allowing a 1mm pigtail to remain ready for soldering — or allowing clearance of the soldered joint if you trim the pigtails after soldering. Clever — and it works! Blade opening 7mm, handles up to 1.3mm copper wire. Cat T-3261

Shipping weight: 150g



$16.95

Cutting Nipper with standard cut

Ultra-precision cutter with standard angled blades allowing completely flush cutting. Special safety feature: spring in blade prevents flying pigtails. Blade opening 4mm, cutting capacity 1mm copper wire. Cat T-3262

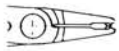
Shipping weight: 150g

$16.95

Inclined Frontal Cut Nippers

Very easy to handle, allowing leads to be cut 1.5mm from plane — perfect for soldering or to clear soldered joint. The blade tip is angled at 30° to allow access to tight spots. Blade opening 9mm, cutting capacity 1mm copper wire. Cat T-3263

Shipping weight: 150g



$19.95

Inclined Cutter and Bender

Two birds with one stone! Not only cuts the pigtail, but bends it away from pcb so the component won't fall out. Fantastic! Makes pcb assembly a breeze — and solves one of the biggest bugbears of hobbyists! Blade opening 6mm, cutting capacity 1mm copper wire. Cat T-3264

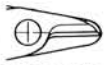
Shipping weight: 150g

$18.95

Shears

For larger cutting jobs — like mini scissors but with the extra strength needed to get through metal, plastics, etc. 18mm length blades means they'll handle coax cable, etc. Blade opening 10mm, cutting capacity 1.6mm copper wire. Cat T-3265

Shipping weight: 150g

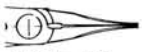


$22.95

Needle Nose Pliers

Tweezer-like ends for reaching into almost inaccessible places — and flat blades so delicate components won't be damaged. 40mm long blades with 15mm opening at end. Cat T-3266

Shipping weight: 150g

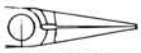


$17.95

Flat Nose Serrated Pliers

Fine (2.5mm) ends with serrations along blade mean extra grip when you really need it. 12.5mm opening with 40mm long blades. Cat T-3267

Shipping weight: 150g



$16.95

Tweezers

Pointed

Great for holding small nuts, components and delicate instruments, wires, etc. Also great for removing ticks! Fine points. Cat T-4620

Shipping weight: 20g
Unit size: 130 x 10mm

$2.25

Serrated Jaw

Has flat serrated jaw for positive grip. Cat T-4630

Shipping weight: 20g
Unit size: 130 x 10mm

$1.60

Universal Tweezer Quartet

NEW FOR 87

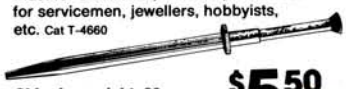
What ever you want to tweeze, this'll do it! 4 different 110mm tweezers with fine pointed blades, with flat blades, curved tips and even reverse squeeze (squeeze to release!). All housed in plastic wallet. Cat T-4625

Shipping weight: 75g
Pack size: 100 x 210 x 10mm

$10.95

Pearl Catch

For reaching into awkward places. 3 pronged tweezer with syringe action. A must for small nuts, washers, etc. Great for servicemen, jewellers, hobbyists, etc. Cat T-4660



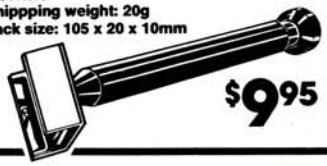
Shipping weight: 30g
Pack size: 70 x 170 x 10mm

$5.50 LAST YEAR'S PRICE!

IC Insertion Tool

Don't damage fragile IC's: this IC insertion tool keeps the pins shorted together and in the right place while you get the right position. Handles 14 and 16 pin IC's in standard DIL package. Cat T-4640

Shipping weight: 20g
Pack size: 105 x 20 x 10mm



$9.95

IC Extraction Tool

The perfect way to remove IC's without damage. Works with all DIL packs, no bent pins and no static damage! Operates like a pair of tweezers — with hooks! Cat T-4650

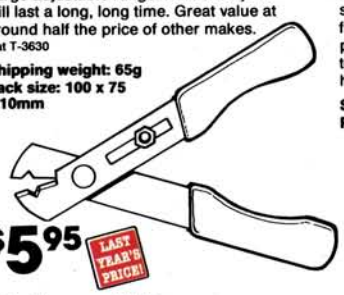
Shipping weight: 20g
Pack size: 100 x 175 x 10mm

$2.95 LAST YEAR'S PRICE!

Economy Wire Stripper

Large adjustable range. Hardened jaws will last a long, long time. Great value at around half the price of other makes. Cat T-3630

Shipping weight: 65g
Pack size: 100 x 75 x 10mm



$5.95 LAST YEAR'S PRICE!

Economy Wire Wrapper/Stripper

Sometimes the best tools are the simplest! That's the case with this 'no-frills' wire wrapping and stripping tool: puts professional style wire-wrapping techniques within reach of the average hobbyist. Cat T-3650

Shipping weight: 40g
Pack size: 100 x 175mm x 10mm

LAST YEAR'S PRICE!

$11.95

Deluxe Wire Stripper

A completely automatic wire stripper. Only one hand operation is required to complete stripping operation. The multiple sized head allows a wide range of wire from 1mm to 3.2mm to be stripped. Ideal for servicemen, TV technicians, hobbyists etc. Cat T-3620

Shipping weight: 300g
Carton size: 180 x 90 x 30mm

$17.95

Economy Range Stainless Steel Tools

Especially selected range offering the hobbyist a great selection — at an affordable price. Quality construction, with toughened cutting edges for long life, heavily insulated grips in a range of yuppie decorator colours, removable springs, and so on. And they're priced low so the hobbyist can afford them (professionals can get tax deduction on more expensive tools!)

ALL ONE PRICE: $9.95 ea. LAST YEAR'S PRICE!

Curved Needle Nose

30mm long blade with 5mm curved ends. Point is under 1mm across so they're great for really fine work. 105mm long overall. Cat T-3251

Straight Needle Nose

Similar to above, with even finer end! They're even better than pointy tweezers! Cat T-3252

Flat Nose

Serrated edge blade with wide (3mm) flat ends — ideal for holding those awkward nuts and bolts! Similar size to above. Cat T-3253

Flush Cutters

9mm hardened cutting blades for intricate work: perfect for pcb assembly, etc. Cat T-3254

Pack size: 141 x 119 x .130mm **Shipping weight: 50g**

A new range for '87...

As part of our continuous upgrade policy, we're bringing you a brand new range of top quality chrome vanadium blade screwdrivers. Check them out: perfect for the hobbyist and the professional.

High impact, insulated handles mean they're ideal for electronics/electrical applications. There's a range of sizes to suit every job from jewellery to juggernauts!
Size Code: L= Blade Length D = Blade Diameter H = Handle Length x Diam

Mini Drivers

Mini is right! Just the size for precision models, turntable cartridges, etc. At our low prices you can afford to buy a couple in case you lose one!

Flat Blade: Cat T-6010
Philips: Cat T-6015

Size: L 30mm D 1.6mm H 25 x 7mm
Shipping weight: 5g

$1.50 ea.

Standard

Ideal for general purpose electronic work. Spot-on for ¼ whitworth!

Flat Blade: Cat T-6030
Philips: Cat T-6035

Size: L 75mm D 3.2mm H 57 15mm
Shipping weight: 30g

$1.95 ea.

NEW FOR 87

Popular

The best "all-round" size for most jobs. Our most popular size.

Flat Blade: Cat T-6040
Philips: Cat T-6045

Size: L 100mm D 5mm H 74 x 16mm
Shipping weight: 75g

$2.45 ea.

Stubby Drivers

Great for confined spaces — or that tough screw which needs extra muscle. You can really get a grip on these!

Flat Blade: Cat T-6020
Philips: Cat T-6025

Size: L 38mm D 6mm H 45 x 30mm
Shipping weight: 50g

$2.45 ea.

Heavy Duty

Everyone needs a big gun sometimes! Strong enough for the toughest work —ideal for the tradesman.

Flat Blade: Cat T-6060
Philips: Cat T-6065

Size: L 200mm D 7mm H 100 25mm
Shipping weight: 100g

$4.25 ea.

Baby Driver Set

NEW FOR 87

Handy plastic wallet containing 5 of the most widely used drivers:

- **2.6mm flat blade**
- **1.6mm flat blade jeweller's**
- **"00" size Philips**
- **5.5mm spintight**
- **4mm spintight**

Ideal for electronics, model makers, repairs, etc.
Cat T-4340

Shipping weight: 75g
Pack size: 160 x 90 x 10mm

$8.45

6 Piece Precision Set

These chrome plated screwdrivers are presented in a plastic storage case. A free running top on each driver gives operator ease of use. The set consists of 4 blade drivers from 1.4mm to 2.9mm and 2 Philips screwdrivers, No. 0 and No. 1. these are quality screwdrivers at a low price and a very handy set to have around. Cat T-4360

Shipping weight: 148g
Pack size: 130 x 70 x 20mm

$5.95

LAST YEAR'S PRICE!

21 Piece Metric Utility Set

This set has to be seen to be believed. 20 piece nickel chrome molybdenum steel with chrome plated handle presented in a handy transparent plastic box.

The set includes:
3 blade screwdrivers — 1.5, 2.5, 3.5mm
2 Philips screwdrivers — No. 1 and No. 3
Hex Allen keys — 1.5, 2.0, 2.55mm
5 open end spanners — 4.0, 4.5, 5.0, 5.5, 6.0mm
5 spintights — 3.0, 3.5, 4.0, 4.5, 5.0mm
1 tommy bar 1 awl 1 handy assembly.

You will be proud to have this excellent quality set in your tool range. Great value for money! Cat T-4365

Shipping weight: 153g
Pack size: 130 x 85 x 20mm

$14.95

LAST YEAR'S PRICE!

Scissors Clamps

Made of stainless steel with screw joint. These scissor clamps are 127mm long so they will reach hard-to-get-at-places. They can be used as a third hand for small items as they can be locked on to the articles they are holding.
Cat T-3690

Shipping weight: 25g
Pack size: 125 x 70 x 10mm

$11.95

Lug Crimping Tool

For quick and reliable connections, crimping beats soldering anytime! Do it easily with this versatile crimping tool — it also cuts and strips wire! Complete in pack with lugs ready to use. Great value — and a must for your workshop! Cat T-3520

Shipping weight: 180g
Pack size: 85 x 250 x 10mm

$5.95

Ripper Nipper

Our most popular nipper: high Japanese quality with box joint and hardened cutting edges, with insulated handles for electrical work. 15mm blades opening to over 10mm. Overall length 110mm. Cat T-3561

Shipping weight: 60g
Pack size: 100 x 175 x 10mm

$12.45

Neon Tester Screwdriver

Very handy little item to have around: it's a standard flat blade screwdriver, but inside is a neon indicator to warn you of dangerous voltages. Operates from about 90 volts (AC or DC). Ideal for anyone working with mains circuits. A life saver! Cat T-4005

Shipping weight: 16.5g
Pack size: 120 x 20 x 20mm

$3.85

TV Alignment Kit

A versatile set of four general purpose tools to cover all shapes and sizes of cores. They are made from tough plastic. Ends suit hex cores from 2 to 3mm plus slotted cores from 1.5 to 2.5mm. Cat T-4540

Shipping weight: 21kg
Shipping size: 250 x 80 x 0.5mm

$4.95

Screwdriver Type

Ideal for handyman and TV technician this plastic screwdriver has a steel spring tip. Suitable for trimmers and mini IF's. Cat T-4520

Shipping weight: 12g
Pack size: 260 x 10 x 10mm

$3.25

Retractable Blade Neon Tester

Avoid that dangerous habit of carrying around a screwdriver in your pocket! Famous German "Boker" quality 'driver has retractable blade for safety PLUS inbuilt mains voltage neon tester (100 to 500V). Screwdriver blade length 25mm, 3mm width. Handle (including pocket clip) 115mm x 15mm diam. Cat T-4007

Shipping weight: 30.9g
Pack size: 160 x 60 x 5mm

NEW FOR 87

$6.55

MADE IN GERMANY!

Steel Rule

300mm hardened spring steel with deep etched black graduations. Non-rusting, complete with plastic sheath. Cat T-5145

Shipping weight: 50g
Pack size: 350 x 35mm x 2mm

$4.95

10 Piece Mini Tool Kit

NEW FOR 87

There's even a hammer in this one! Mini kit is just right for repair and general hobbyist work. And if it doesn't work... use the hammer! Cat T-4380

Contains:
- **2 flat blade drivers, 2.0mm and 1.4mm**
- **2 Philips drivers, size 02 and 03**
- **1 magnet**
- **1 awl**
- **1 3-prong catch**
- **1 magnifying glass**
- **1 mini hammer**
- **1 pair tweezers**

Shipping weight: 190g
Pack size: 150 x 100 x 22mm

$10.50

Deluxe Pin Vice

It's only when you start to use one of these that you realise just how handy they are! It's a small hand tool that looks a lot like a jeweller's screwdriver — without a blade. Stored away inside the body are two double-ended locking collets that can be used to hold anything from 3mm diam. down to virtually nothing. That could be small drills (fantastic for drilling PCB's!), screwdriver blades (now you don't have to throw broken blades out!) awl points, scribers, reamers, needles and pins, etc etc. Cat T-5115

Shipping weight: 55g
Pack size: 70 x 150 x 15mm

$15.95

Allen Key Set

Allen screws always turn up when you least expect them to! So here's an ideal set for the workshop. 7 gunmetal finish Allen keys in a plastic wallet. Sizes 1.4mm, 1.5mm, 2mm, 2.4mm, 2.5mm, 3mm, 4mm. They are ideal for most European and Japanese equipment that have Allen screws. Cat T-5080

Shipping weight: 35g
Pack size: 100 x 55 x 5mm

$3.95

9 piece Tool Wallet

Handy go-anywhere wallet contains essential tools for the hobbyists, servicmen, etc:
- 4 flat blade jeweller's screwdrivers from 0.8 to 2.5mm
- 2 Philips blade jeweller's screwdrivers
- Needle pointed surgical tweezers
- Insulated handle cutting nippers
- Mini snap-blade knife

All housed in tough, zip-up vinyl pack. Cat T-4836

Shipping weight: 200g
Wallet size: 135 x 115 x 25mm

$6.95

Hot Melt Glue Gun

Want to bond virtually anything to anything? You need a hot melt glue gun! Countless applications in hobbies, in business, in industry — bonds where a lot of other glues cannot. It operates from mains power, heating the glue sticks to operating temperature very quickly. Glue sticks are readily available. Pistol shape design for ease of use, comes complete with mini stand to keep hot tip away from benches, etc. Interchangeable tips for narrow (standard) and wide (optional) gluing. Cat T-4840

Shipping weight: 466g Carton size: 290 x 160 x 50mm

Spare Glue Sticks: pack of 12 sticks Cat T-4841 **$4.99**

Wide Nozzle: for large area gluing. Cat T-4842 **$4.99**

$19.95

68 piece Multipurpose Repair Kit

Already own a multimeter? This set has everything else — and then some!

Auto electric checker (6-12-24V), heavy duty pliers, crimp terminal set... with 60 assorted crimp lugs, insulation tape, even connecting wire!. A must for the hobbyist, technician — or even the motorist. Cat T-4834

$21.95

Shipping weight: 1050g
Carton size: 150 x 310 x 47mm

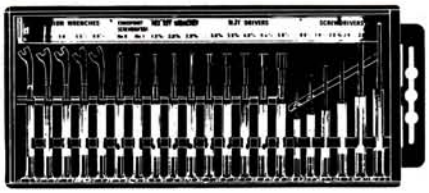
38 piece Deluxe Repair Kit with Multimeter

Everything for quick and easy wiring repairs — with no soldering! Ideal for automotive and hobby use. Here's what you get: • Multimeter • Crimp Tool • Pliers • 2 Screwdrivers • Neon Tester (rated to 500V) • Selection of crimp lugs. All in a handy, heavy duty carrying case. Perfect for throwing in the car — just in time! Cat T-4832

$37.95

Shipping weight: 1100g
Carton size: 170 x 325 x 42mm

21 piece Tool Kit



WHAT AN ASSORTMENT!
21 individual pieces in a handy plastic pack (you'll never lose them!):
- 5 open ended spanners 4.0-6.0mm
- 2 Phillips head screwdrivers
- 3 Allen key drivers
- 5 nut drivers 3.0-5.0mm
- 5 flat screwdrivers
- 1 tommy bar

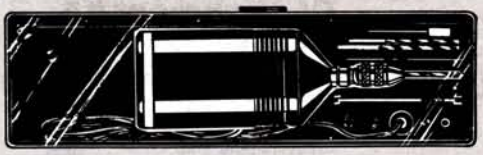
Quality made — a complete set for the hobbyist or technician. Cat T-4830

LAST YEAR'S PRICE!

$14.95

Shipping weight: 575g
Carton size: 340 x 150 x 22mm

High Speed Mini Drill Kit



LAST YEAR'S PRICE!

For the hobbyist, technician, toolmaker, etc... this superb mini drill kit is hard to beat. Very high speed — up to 30,000 rpm (depending on voltage used) with a high torque, it's great for drilling, polishing, grinding, deburring, engraving, routing, buffing, carving, sanding, etc, etc. Kit comes complete with four high speed steel twist drills, three collets, grinding bit, spanner and tommy bar, plus DC power cable and plastic case. Cat T-4751

- **12-35V DC operated (external)**
- **Chuck sizes 0.4-1.5mm, 1.7-2.9mm, & 2.8-2.4mm.**
- **Weight only 400g, size 105mm x 42mm diameter.**

$24.95

Drills

MINIATURE HIGH SPEED TWIST DRILLS
Suitable for PC Board work.

0.8mm Cat T-4825
1.0mm Cat T-4820
1.1mm Cat T-4819

$1.50 each
10 up $1.35

Nibbling Tool

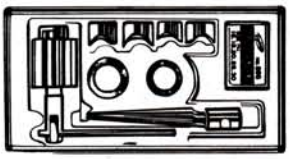
A unit that can cut any shape opening in sheet steel to 0.6mm thick or light alloy to 1.5mm. Ideal for plastics too. Easy to use, gives good clean cut without distortion. Follows curved or straight lines with ease. Put one in your tool box today Cat T-4940

Shipping weight: 220g
Carton size: 180 x 115 x 20mm

$29.95

Hole Punch Set

Ideal chassis basher tool, in fact a necessary tool for anyone who needs a large hole cut through metal. Its easy to use, needs no filing and it will cut a hole without distortion. The complete set includes a 12mm tapered reamer, tommy bar, 5 punches - 16mm, 18mm, 20mm, 25mm and 30mm. Individual chassis punches bought separately would cost a lot more than the price being charged for the hole set! Will handle steel to 22 gauge and aluminium to 16 gauge. Cat T-4900



$44.95

Shipping weight: 630g
Carton size: 230 x 220 x 37mm

Tapered Reamer

An ideal tool for enlarging holes on thin metals, plastics, wood, etc. Great for chassis bashers, hobbyists, servicemen. Made from the highest quality heat treated steel, comes complete with tommy bar. Tapers from 4mm to 22mm. Cat T-4920

$9.90

Shipping weight: 170g
Carton size: 200 x 75 x 25mm

Only DSE's catalogue has a full data section — FREE!

Tools

ARLEC Supertool

What versatility! It sands. It polishes. It engraves. It erases. It mills. It's one of the handiest tools you can have in your arsenal! This fantastic hobby machine is a 10,000 RPM power head which does all of the above with the attachments supplied. And because it operates from low voltage (240V plugpack included!) it's safe. Includes the Supertool and plugpack, 2 milling cutters, 1 wire brush, 1 grinding wheel, 4 high speed speed drills, 5 chuck collets (0 to 4mm), eraser sticks and instructions. Cat T-4754

Includes 240V Plug-Pack Adaptor

Complete with ON-OFF switch on the body for convenience.

$59.95

Shipping weight: 1.068kg
Carton size: 260 x 210 x 60mm

Supertool Accessories:

Set 4 PCB Drills

Top quality high speed steel twist drills in all popular PCB sizes: 1.2, 1.0, 0.8, and 0.6mm. Cheaper than buying singly! Cat T-4756

$7.95 set LAST YEAR'S PRICE!

Grinding Bits

Shape, sand and grind your projects to perfections. 3 pieces, different shapes. Cat T-4758

$11.50 set

Cutting Discs

Set of 6 mini cutting discs, with arbor, for cutting metal and plastic. Essential for the serious hobbyist. Cat T-4766

$11.95

Engraving/Milling Bits

Set of three cutters designed to make short work of any engraving or milling job. Fine and medium hex head plus fine round head. Cat T-4764

$9.95 LAST YEAR'S PRICE!

Erasers

Make short work of rubbing out! Two different types to cover both ink and pencil!

Set 5 ink Cat T-4760 **$5.15** LAST YEAR'S PRICE!

Set 5 pencil Cat T-4762 **$2.95**

Wire Brushes

Pack of 3 wire brushes for polishing, cleaning, etc. Cat T-4768

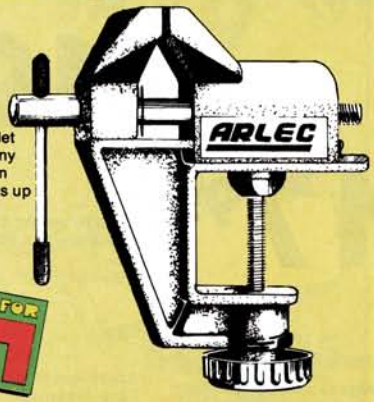
$15.95 NEW FOR 87

Arlec Mini Vice

Need a third hand? Here's one that won't let go! The mini vice from Arlec attaches to any table, desk, bench, etc. (up to about 40mm thick). 50mm wide jaws hold tight — opens up to around 60mm for those big jobs. More than strong enough for cutting, filing and other testing applications. Cat T-4748

Shipping weight: 500g
Carton size: 250 x 170 x 60mm

$12.95 NEW FOR 87

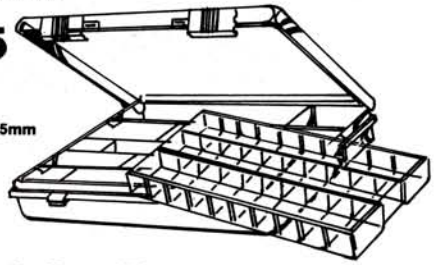


Compartment Case

Made of extremely strong plastic, with clear lid so you can see exactly what's inside. The internal compartment holders move so you can suit it to a huge variety of parts, nuts and bolts, bits and pieces, etc. Sliding catches ensure the lid stays closed: even if you drop it! Consists of case and two tiers of trays and one extra deep tray. Size 290 x 220 x 45mm. A must for the hobbyist. Cat H-2596

$44.95

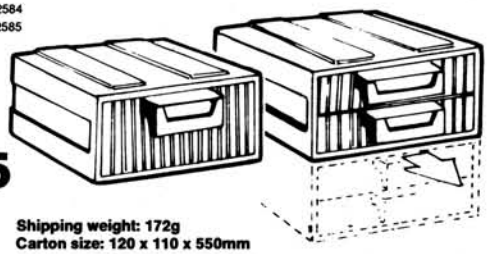
Shipping weight: 902g
Carton size: 29 x 23 x 25mm



Stackable Drawers

Total flexibility: that's the superb drawer system from Dick Smith Electronics. Large (114 x 57 x 130mm) cases containing either one or two drawers. Precision dovetail system means you can stack them both vertically and horizontally. Large handle on each drawer plus index card slot.

One drawer per box: Cat H-2584
Two drawer per box: Cat H-2585



Both types: **$4.45**

Shipping weight: 172g
Carton size: 120 x 110 x 550mm

Super Sensitive Metal Locator

How often have you needed to find a nail in a wall or in a piece of timber, locate a water or gas pipe, reinforcing steel in a building, wires and cable behind plaster? This little beauty will do just that, and lots of other jobs requiring metal location. Has sensitivity control that can be adjusted from the smallest nail to the largest R.S.J. Indication light comes on in the presence of metal up to 6" or more. (Range depends on size, shape and type of metal). Operates from a single 9V transistor battery. Ideal for plumbers, electricians, builders, handymen, etc. Cat Y-1060

$17.95 NEW FOR 87

Shipping weight: 98g
Carton size: 200 x 180 x 20mm

Magnifying Glasses

Illuminated Magnifier

NEW FOR 87

Parts identification difficult? Looking for pcb track faults? Can't quite make out that circuit diagram? Here's the answer: an illuminated magnifying glass to bring it up really close. Calibrated scales also show mm and inches — ideal for map reading too. Requires 2 x "C" batteries (Cat S-3232 @ 40¢ ea). Cat Y-1074

Shipping weight: 120g
Carton size: 210 x 80 x 70mm

$2

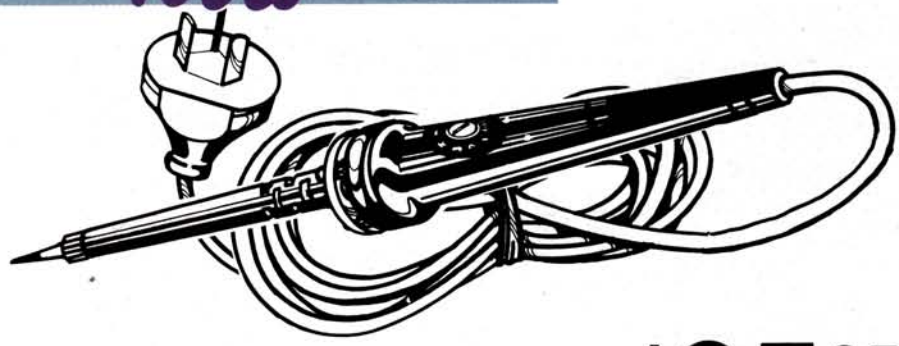
Dual Power Magnifier

NEW FOR 87

For general magnification it's a winner: two times glass for normal use, with four times "dimple" for higher power. 100mm diameter, 110mm handle. Cat Y-1091

Shipping weight: 120g
Shipping size: 215 x 105 x 25mm

$4.95



Varitemp Iron

The experts will tell you no two solder jobs are the same: some need high heat: use the same on some semis and you'll cook them! Here's the answer: Variable temperature — the right heat for every application! And the temperature adjustment is right there on the handle: that's convenient! Interchangeable tips means total flexibility. Cat T-1350

Features:
- **25 watts total capacity**
- **240V operated**
- **Stainless steel**
- **Electricity Authority Approved**

Shipping weight: 75g
Blister pack size: 345 x 150 x 50mm
Iron length: 210mm

$35.95

Accessories to Suit:
Spare Tip (medium) Cat T-1351 **$4.35**
Spare Tip (large) Cat T-1352 **$4.35**
Spare Tip (conical) Cat T-1353 **$3.95**

Just the size of a marker pen — ideal for on-the-spot repairs.

$59.95 Butane Soldering Iron

Unit size:
172mm long x 20mm diam

Shipping weight: 80g
Blister pack size:
100 x 300 x 25mm

LAST YEAR'S PRICE!

Spare tip to suit:
Cat T-1371 **$12.95**

Totally portable, 'all-in-one' soldering iron that fits easily in a shirt pocket... and it's made in Ireland — no joke! Uses refillable 'butane' — the type used in ordinary cigarette lighters. Provides an amazing 60 minutes continuous use at a full 60 watts. Simple 'finger-thumb' turn adjustable temperature control provides an equivalent to 10 to 60 watts: enough for a variety of repair jobs. Detachable cap features a built-in ignition system which uses replacement flints. Ideal for servicemen, handymen and hobbyists... the best thing to come out of Ireland since the 'snakes'! Cat T-1370

DSE's Mini 15W Soldering Iron

The perfect iron for hobbyists and enthusiasts... at an ideal price! Miniature size and lightweight. Suits soldering jobs involving semis and delicate work. Precision balanced design enables long work periods, reduces hand strain. Authority approved! Cat T-1333

Shipping weight: 200g
Blister pack size: 340 x 150 x 30mm

$16.95

Replacement Tip **$2.35**
Keep one in reserve... you'll never know when you might need it! Cat T-1334

DSE Low Voltage

Heavy Duty 12V Iron

30 watts capacity means this iron is ideal for all those electrical repair jobs around the car, caravan, etc. Comes complete with 2 metre cable car cigarette lighter plug, ready for instant use. Or use it around the home with virtually any 12V supply — AC or DC (anything over 2.5A is ideal). Balanced grip and lightweight, great for pcb assembly and other general electronics work too. Cat T-1910

$7.50

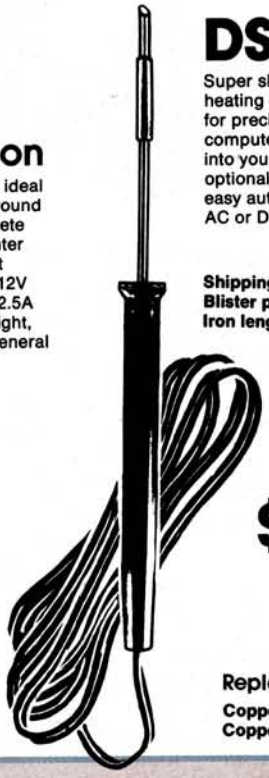
Iron length: 230mm
Shipping weight: 120g
Blister pack size:
300 x 160 x 30mm

Tip to suit Cat T-1913 **$1.15**

DSE Mini

Super slim 6W iron — with quick heating capability — just the thing for precision soldering on computers, PCBs, etc. Even plugs into your car's cigarette lighter with optional cigarette lighter plug for easy auto repairs. Low voltage: 12V AC or DC @ 500 mA. Cat T-1920

Shipping weight: 45g
Blister pack size: 272 x 77 x 25mm
Iron length: 150 mm



$17.95

Replacement Tips
Copper Wedge Cat T-1921 **$3.25**
Copper Conical Cat T-1922 **$3.25**

DSE Hobby Iron

A general purpose mains-powered iron for project building, service and repairs and other low-heat work. Iron element is rated at 15 watts so is ideal for the hobbyist — too much heat cooks some components! Made for DSE by Weller, iron comes in blister pack complete with detailed soldering hints on back. Cat T-1310

$19.50

Shipping weight: 233g
Pack size: 110 x 300 x 40mm

NEW FOR 87

Spare tips to suit:
Pack of two. Cat T-1312 **$4.75**

Adcola RS-30

Reliable iron for general service or production area and ideal for the hobbyist. High impact orange plastic handle and complete with Triciad 3mm long life tip. Cat T-1820

Shipping weight: 220g
Blister pack size: 340 x 140 x 50mm
Iron length: 205mm

12 Watts **$27.95**

Adcola S50

For those heavier soldering jobs this Adcola is ideal: service work, assembly, etc. Has heavier element for more power (16 watts) and a larger long life Triciad 5mm tip. Thousands of Adcolas are used in electronics every day. Cat T-1825

Shipping weight: 225g
Blister pack size: 345 x 145 x 50mm
Iron length: 205mm

16 Watts **$33.95**

Adcola Duotemp

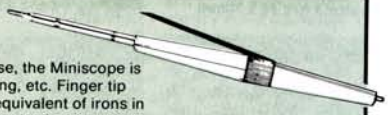
Professional quality — at a hobbyist price. The Duotemp has two temperature settings — normal for everyday service and assembly work, plus a bush button "boost" for fast heating or heavy duty soldering. And a variety of tips for specialist applications is available. If you don't need a variable temperature iron, the Duotemp could be just what you need. Rated at 21 watts, 240V AC. Cat T-1830

Shipping weight: 227 g Carton size: 345 x 145 x 50mm

$49.95

Scope Irons

Miniscope



Lightweight and a delight to handle and use, the Miniscope is perfect for general service work, kit building, etc. Finger tip control gives precise temperature — the equivalent of irons in the 10 to 70 watt range. Use Scope transformer for correct operation. With spare tip and element. Cat T-1660

Needs 3.3V @ 30A. See Scope Transformer below.
Shipping weight: 132g
Blister pack size: 350 x 150 x 40mm

$52.95

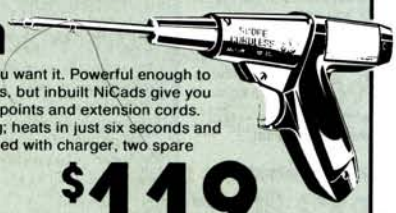
Superspeed

The world-famous Australian! Scope irons are ideal for the hobbyist, the work bench, the lab — everywhere. Because they're made tough to take it, they can! Huge 150 watt capacity and it delivers heat from cold in just six seconds. You dictate the temperature you want. Stainless steel non-corrosive barrel. With spare tip and element. Cat T-1605

Needs 3.3V @ 30A. See Scope Transformer below.
Shipping weight: 153g
Carton size: 330 x 150 x 40mm

$51.85

Scope Cordless Solder Gun



For soldering where you want it, when you want it. Powerful enough to handle the same jobs as 60W mains irons, but inbuilt NiCads give you up to 100 solder joints away from power points and extension cords. Includes plugpack for overnight charging; heats in just six seconds and takes standard Miniscope spares. Supplied with charger, two spare elements and two spare bits. Cat T-1600

Shipping weight: 66g
Carton size: 70 x 50 x 30mm

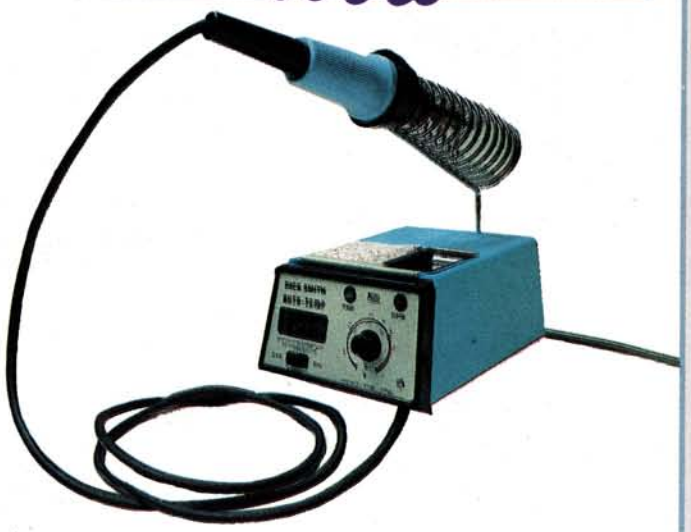
$119

Scope Transformer 3.3V at 30A (int)

Made just for Scope Irons — low voltage means less danger of damage to sensitive components. And there's an electrostatic shield for even more protection. Tough polypropylene case complete with iron rest. Cat T-1692

Shipping weight: 1.7kg
Carton size: 163 x 83 x 105mm

$58.75



DSE Solder Station

A professional soldering station at a hobbyists price!

If you're serious about good soldering, there is only one way to do it — with a temperature controlled soldering iron. Until now, temperature controlled irons have been expensive. But Dick Smith Electronics have solved the problem! The DSE Auto Temp offers you the best quality at an unbelievable low price. Features fully variable temperature control (from around 200° to over 500° Celcius) with a temperature meter to show you what's happening. And it's fully approved by the Energy Authority. The station comes complete with lightweight iron holder and cleaning sponge, with a comprehensive instruction manual with full servicing information included — just in case you need it. Cat T-2000

Shipping weight: 1.75kg
Carton size: 225 x 90 x 180mm

$129

Quality Accessories to suit

Tip medium chisel Cat T-2002 **$6.55**
Tip thick chisel Cat T-2004 **$6.55**
Tip fine conical Cat T-2006 **$6.55**
Element and barrel Cat T-2008 **$19.75**
Sponge replacement Cat T-2010 **$1.95**

Tips for older stations:
Tips with solder to suit earlier model soldering stations:
Medium Cat T-2003
Thick Cat T-2005
Fine Cat T-2007
All one price

$6.55 ea

Royel Professional Soldering Station

When quality really counts you need the best you can get. Royel is it: temperature sensing is done right at the tip for instant reaction — and the zero voltage switching regulator means no interference and perfect control. Cat T-2050

Complete station includes:
- **Control Unit with 200° to 400°C range**
- **CT6-1 pencil iron with "Armclad" tip and rating equivalent to 50 watt conventional irons**
- **Solder iron stand**
- **Auxillary ground clip lead**
- **Sponge & well**
- **Instructions**

$169

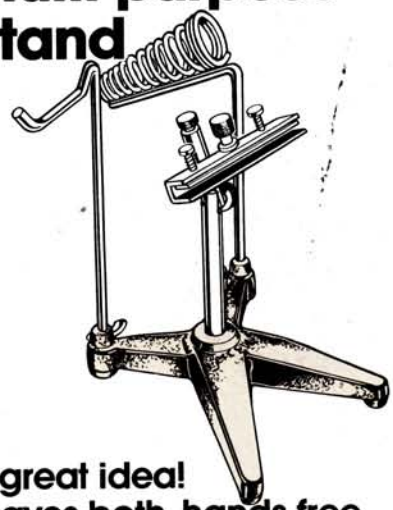
NEW FOR 87

Shipping weight: 2.6kg
Carton size: 310 x 295 x 155mm

Tips to suit:
Fine Cat T-2051
Standard Cat T-2053
Large (Bevelled) Cat T-2054
All one price

$5.95 ea

Multi-purpose Stand



A great idea! Leaves both hands free.

Holds boards or components firmly in rubber faced vice. Angle of vice may be varied widely in three dimensions for greater accessibility to board. Convenient soldering iron holder also adjustable. Adjustable spool holder for solder & desoldering wick. Ideal for the hobbyist or professional. Leaves both hands free.
Cat T-5700

$39.95

Shipping weight: 1.7kg **Carton size: 250 x 185 x 45mm**

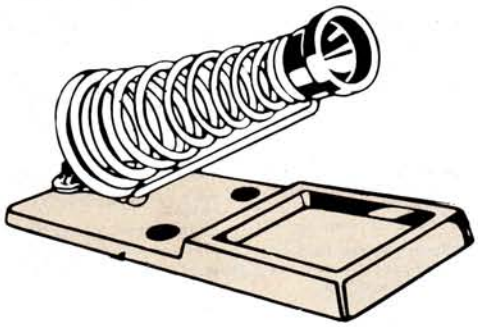
Solder Stand with Magnifier

The helping hand when you need it most: when you have a 'hot stick' in your hand! Heavy die-cast base, solder stand, clips for holding PCB, etc.– plus a unique magnifying lens for those close assembly jobs. Cat T-5710

$19.95

Shipping weight: 640g **Carton size: 140 x 55 x 70mm**

Soldering Iron Stand



Few things are more dangerous than a hot soldering iron left on a bench! Solve the problem with the DSE soldering iron stand. Suits most medium size irons — DSE or other brands. Very stable cast base with tip cleaning well, large plated spring steel coil to keep the hot tip safely out of harms way. Base has screw holes to fix to bench if required. Cat T-1302

$7.95

LAST YEAR'S PRICE!

Replacement Sponge Cat T-2010 **$1.95**

Shipping weight: 305g **Carton size: 160 x 65 x 122mm**

Soldering Accessories

Desoldering Bulb

$10.95

Simple and efficient. Simply squeeze bulb, hold up to molten solder and release bulb. Solder is sucked straight up. Use for blow cooling too! Cat T-2580

Shipping weight: 58g **Carton size: 135 x 40 x 40mm**

Solder Sucker

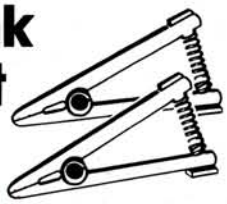
A rugged all metal construction solder sucker complete with Teflon tip and a nozzle sweeper as well. Light thumb release mechanism for the removal of solder from the board. Don't pay twice the price — a top quality import from Dick Smith Electronics. Cat T-2560

Spare Teflon Tip to suit
Cat T-2565

$8.95

Shipping weight: 110g **Pack size: 88 x 320 x 25mm**

Heatsink Clip Set



$4.95

Spring loaded, plier grip clips for heat sensitive components and leads. Made of aluminium for high thermal conductivity, 2 types one straight and one angled, both 75mm long!
Cat T-2620

Shipping weight: 20g **Carton size: 170 x 80 x 0.5mm**

Soldering Aid Set

NEW FOR 87

$3.95

For anyone working with pcb's this is an essential part of the tool kit. In a handy plastic pouch, you get:

- **Fine point and slotted end probe**
- **Scraper end and wire brush probe**
- **Angled scriber and scraper probe**
- **Aluminium heatsink**

Protect your valuable components while soldering — and make solder joints that last — with this low-cost set.
Cat T-2605

Pack size: 190 x 95 x 10mm **Shipping weight: 55g**

Desoldering Wick

FAMOUS SCOPE BRAND

Desoldering made simple! Specially treated copper braid soaks up solder like blotting paper... just melt the solder with your iron and apply the braid. Capillary action takes the solder into the braid — just cut off the solder-filled section. Very convenient roll package. Cat N-1682

$2.50

LAST YEAR'S PRICE!

10 up $2
Shipping weight: 156g
Carton size: 160 x 20mm

Solder

Hobby Packs

Just the right amount of solder for the average project (eg an amplifier board, alarm, etc). And because some constructors favour a thicker gauge, we have both 0.75mm and 1.25mm packs. Top quality electronic grade (corrosion-free) flux-cored 60/40 solder.

0.71mm (22g) hobby pack
(9 metre length) Cat N-1636
Shipping weight: 30g
$2.15
10 up $1.90

1.25mm (17g) hobby pack
(4 metre length) Cat N-1638
Shipping weight: 40g

50mm Solder Rolls

Same solder as in above hobby packs, but on 200g bulk rolls. Ideal for the workshop, lab, production line, etc.

50mm roll containing **200 grams of 0.71mm (22g) solder.**
Cat N-1623
$7.95 each
5 up $6.95

50mm roll containing **200 grams of 1.25mm (17g) Solder.**
Cat N-1619

Complies to AS1834 Australian Standard

Shipping weight: 220g

ALU-SOL

Aluminium-based solder for soldering dissimilar metals — particularly aluminium and alloys. (If you've ever tried it with conventional solder you'll know how hard it is to do!) Alu-Sol is specially made for the purpose — it requires no other flux or special preparation. All you need is a good, hot iron (hotter than normal soldering).

50mm roll containing **100 grams of 1.6mm (15g) Solder.**
Cat N-1625
$11.95
10 up $10.95
Shipping weight: 110g

Tools

Clear Acrylic Spray

A fine colourless spray that is ideal for the protection of front panels, etched screen print or Letraset lettering. Will moisture proof components. TV aerial terminations etc. 125g can. Cat N-1011

$6.55

Matte Black Spray Paint

A quick drying matte finish paint, also ideal for touch-up. Gives your project a really professional finish. Also used to increase thermal efficiency of plain aluminium heatsinks. Great for car touch-up too. 175g spray can. Cat N-1070

$2.50

Matte Silver Spray Paint

Anti-glare silver paint for a smooth, elegant finish to that special project. Quick drying paint is ideal for front panels, cases, etc. 150g spray can. Cat N-1076

$2.50

Nickel Screening Spray Paint

A nickel-based paint coating for electromagnetic and radio frequency interference (EMI/RFI) applications. Resistivity of 0.7 ohms per square metre at 50 microns thickness. Takes to large range metals, plastics, etc. 200g spray can. Cat N-1049

$23.50

Electronic Cleaning Solvent

A highly efficient, high pressure solvent highly recommended for cleaning tuners, switches, plugs and sockets, commutators, potentiometers, relays, etc. Non-corrosive, low toxicity. Complete with long tube. 300g spray can. Cat N-1040

$5.75

Spray Cleaner

Non-toxic, non-explosive and non-flammable cleaning and degreasing spray. It leaves no residue so is suitable for electronic and electrical components as well as computer, tape recorder, VCR's, etc. Complete with long range nozzle. 250g spray can. Cat N-1051

$4.40

Electrolube 2X Lube Pen

The state of the art electro-mechanical lubricant, packaged in pen form with a pocket clip. The pack has a unique retractable tube system to reach into those inaccessible areas. Non-drying lubricant for use with electronic gear, automotive, office and domestic equipment, etc. Ideal for servicemen. Cat N-1047

$5.95

CRC 2-26 Spray

A moisture removing, cleaning pressure pack. Not only does it clean, but it also leaves a film of protecting silicone that does not dry out. Ideal for pots, switches and contacts. Ideal for loosening stubborn nuts and bolts. Will protect your car from salt and moisture. Use it on the ignition system to stop frustrations during wet weather starts. 400g. Cat N-1060

$11.50

Circuit Lacquer

A specially formulated spray for the protection of PC boards. This is a solder through lacquer so boards previously sprayed with PCL-2 can be soldered in service. 350g spray can. Cat N-1045

$7.95

Flux Remover

Cleaning excess flux off pcb's used to be a chore: not any more! Spray flux remover dissolves flux, makes it simple to remove. Service work, technicians — remove the flux that hides a dry joint. Hobbyists: remove the flux from messy solder jobs! Large 400g spray can. Cat N-1055

$10.95

Spray Freezer

Instantly freezes components down to minus 50 degrees Celsius! Ideal for servicing electrical & electronic equipment with intermittent problems. Also shrinks shafts, bushes, etc; cools components while soldering. Complete with long reach tube. 350g spray can. Cat N-1056

$6.90

Heat Sink Compound

This heat transfer compound is applied to the base and mounting studs of transistors and diodes. It is also an effective thermal coupler for any heatsink device where efficient cooling is required. Cat N-1205

$1.50

PCB ETCHING MATERIALS

Negative Photo Resist

For use when film negative (clear tracks on dark background) is available. Liquid resist — pour onto clean blank pcb, dry and expose to UV light. Quantity of resist in pack is enough for approx. 1500 sq cm of board. 50ml bottle. Cat H-5722

$7.65

Developer to suit above

Working strength solution (no mixing required) of negative resist developer. 500ml bottle is enough for contents of 50ml resist. 500ml bottle. Cat H-5726

$9.85

Etching Kit

Everything you need for instant pcb's. Contains pc resist pen, etchant, resist solvent, flux, cleaning material and a sample of pcb. (See shipping warning on H-5652 etchant) Cat H-5650

Shipping weight: 951g
Carton size: 280 x 120 x 80mm

$18.95

High Resolution Positive Resist

Now one off boards and prototypes can be made approaching factory standards — at a fraction of the price. Spray resist is simple to use, exposes to any UV source(even the Sun). Perfect for use with 1:1 tapes and pads. Develops in caustic soda solution or developer below. 75g spray can Cat N-1001

$9.95

Developer to suit above

Safer and simpler than mixing up caustic soda solutions: just develop pattern in this, dry and etch. Cat N-1002

$7.95

PCB Marking Kit

For those quickie boards (or where no photographic facilities are available) just draw this resist directly onto the pcb surface. Two different coloured pens plus eraser in a handy plastic wallet. Also ideal for repairing photoresist prior to etching. Cat T-5175

Shipping weight: 36.3g
Wallet size: 150 x 40 x 10mm

$13.95

PCB Etchant

Reliable ferric chloride etchant for pcb's, front panels (works well with aluminium), etc. No-spill bottle is ideal for standing in hot water to speed up etching times. 500ml bottle. Cat H-5652

Note: some shipping restrictions might apply, especially using airlines, due to highly corrosive nature of FeCl2.

Shipping weight: 725g

$5.10

PRINTED CIRCUIT BOARDS

You'll find a range of pcb blanks suitable for these materials on page 64, along with a range of front panel and scale marking materials.

DSE PVC Tape

Top quality PVC tape. 18 metres long x 19mm wide x 0.2mm thick. Hundreds of uses. Cat N-1362

95¢

Super Glue

No clamping required, no mixing, no mess. Sets in seconds. Has thousands of applications. 3ml tube. Cat N-1220

$2.95

Silastic Adhesive/ Sealant

Adheres to metals, glass, paint, ceramics, most plastics and wood. Ideal for mending leaks in fish tanks, roof tiles, windscreens etc. General purpose one part silicone cement. 75g tube. Cat N-1225

$4.95

Personal LCD with Auto Ranging!

An amazing feature-packed 3.5 digit multimeter that's the size of a pocket calculator: only 10mm thick! Perfect for on-the-spot testing... fits comfortably in a shirt pocket. It may be small but boasts a number of impressive features normally found in larger, more expensive testers. There's super-fast auto ranging, automatic polarity indication, 2 times/second sampling and audible continuity. Probe leads are permanently attached. Its excellent frequency response allows it to be used as a milli-volt meter (up to 20KHz). Comes with calculator-type hard case protector and manual. Cat Q-1555

- **Size: 56 x 108 x 10mm**
- **Weight: Approx 80g (including batteries)**

Ranges:
DC Voltage: 2000mV, 20, 200, 400V +/-(2.0%rdg +/-2dgt).
AC Voltage: 200mV, 20, 200, 400V +/-(3.0%rdg +/-5dgt).
Resistance: 200, 2000, 20, 200, 2000K ohms +/-(2.0%rdg +/-2dgt).
Continuity check: 200 ohm +/-10 ohm

$54.95

Budget Price Pocket Size 3.5 Digit

Here's proof that you don't need to spend a fortune for quality testing equipment! This budget priced tester is a valued addition to any tool kit. Small enough to be used in awkward situations... with convenient one-hand operation that leaves your other hand free. The 3.5 digit wide-angle LCD provides accurate readings at a glance under adverse lighting and from any angle. RF shielding ensures stable readings in a variety of conditions. Overload protected, all ohms ranges handle 250V AC or 350V DC indefinitely 350V AC or 500V DC for up to 30-seconds. Plus LSI circuitry, glass epoxy PC Boards are housed in a tough thermoplastic case to withstand a high degree of physical abuse.
Cat Q-1520

- **Size: 130 x 75 x 28mm**
- **Weight: 195g**

Ranges:
- **DC Voltage: 2, 20, 200, 1000**
- **AC Voltage: 2, 20, 200, 750**
- **DC: 2, 20, 200mA, 2A**
- **AC: 2, 20, 200mA, 2A**
- **Resistance: 2, 20, 200k, 2M**

$59.95

Safety Yellow 3.5 Digit with Tr, Diode & Continuity plus Battery Checking

At last! Someone's got away from basic black or basic grey in a multimeter! This one's safety yellow: you won't misplace it in a hurry... It has all the usual ranges, including current to 10A and resistance to 200 megs, but it also has a continuity checker with a fast 100ms response time, a diode and transistor checker, plus a battery checker — it tests under actual load conditions, so you know if your battery is a good'un. It takes a single 9V battery (and tells you if it's low!) and comes complete with a flip-down handle that doubles as a stand. Cat Q-1445

- **Shipping weight: 288g**
- **Shipping size: 140 x 130 x 40mm**
- **Bright yellow colour with large LCD display**
- **Continuity buzzer, transistor checking too**
- **Battery checking under load**
- **Meter Size: 72 x 128 x 33mm**

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 0.2, 2, 20, 200, 650V
DC: 200uA, 2, 20, 200mA, 10A
AC: 200uA, 2, 20, 200mA, 10A
Resistance: 200, 2k, 20k, 200k, 2M, 20M, 200M
Transistor Check: Hfe
Diode Check: 1mA, 3.2V
Continuity: Buzzer
Battery Check: 1.5V (@200mA), 9V (@6mA)

$79.95

Autoranging 3.5 digit with memory!

A new model — updated and improved! It now includes transistor gain measurement, data hold, and improved ranges. Auto-ranging means you don't have to worry about which setting you're on: a boon for the service technician who doesn't know quite what to expect — or for the beginner who doesn't know! And it has auto polarity PLUS high levels of overload protection on all ranges — it won't let you make an "oops". Fast ½ second cycling means you're not left in the dark with old readings, either. It features a "lo ohms" setting which limits o/c voltage for in-circuit resistance measurements, and the handy buzzer sounds at 1.9 digits so you don't even have to look at the display. The auto-ranging is switch selectable, with manual ranging giving extended resolution (150% auto range). Cat Q-1516

- **Shipping Weight: 250g**
- **Shipping size: 180 x 155 x 55mm**
- **Auto ranging for hands-free operation**
- **Continuity buzzer, transistor checking**
- **High overload protection**
- **Meter Size: 75 x 150 x 34mm**

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 2, 20, 200, 750V
DC: 20, 200mA, 10A
AC: 20, 200mA, 10A
Resistance: (lo) 2k, 20k, 200k, 2M, 20M (hi) 200, 2k, 20k, 200k, 2M, 20M
Transistor Check: Hfe
Continuity: Buzzer

$115

1GHz Frequency Counter

Great value for a superb 8 digit counter with an enormous range of up to 1GHz! A professional device at an affordable price. The robust, functional design makes this unit ideal for the lab, technician, workshop or professional hobbyist. The large bright display and logical layout allow the job to be done quickly and efficiently. Cat Q-1315

Features:
- **Large, easy to read 8 digit display**
- **Streamlined, functional design**
- **3 gating times — 0.1, 1, & 10 seconds**
- **3 frequency ranges — 10MHz, 60MHz & 1GHz**
- **Sensitivity at 1GHz — 20mV**
- **Inbuilt 10:1 attenuator**
- **Inputs — 10 Hz to 60Hz at 1M ohm**
  50MHz to 1 GHz at 50 ohms

Shipping weight: 2.197kg
Shipping size: 340 x 320 x 140mm

$419

Manufacturers, Repair & Service Organisations:

We have much more than test equipment for you...

Looking for that elusive component? Wishing someone would take your service worries off your hands? Need specialised techniques beyond your organisation's capabilities? There's much more to Dick Smith Electroncis than you'll find in our catalog. As well as the range of fine test equipment and quality components you're used to in our stores, we have more — much more —available through the DSE Service Centre.

- Over 15,000 line items (five times larger than the stores carry) catering for audio and entertainment, RF, business electronics and computer/digital equipment.
- We offer a continually updated microfiche/hard copy subscription service giving you complete stock availability and pricing.
- Speaking of pricing, you'll find we're very competitive.
- We have a direct line fast order service — no waiting around on busy switchboards!
- And for large manufacturers/importers, we offer a 3rd party repair facility at very attractive prices.

Perhaps that's why many other companies such as National Panasonic, Roland Corporation, Sharp Corporation, etc. etc. use Dick Smith Electronics Service!

Call DSE Service Centre direct on Sydney (02) 888 3077

Safety Yellow 3.5 Digit with Cap, Tr, Diode & Continuity

Very similar to our Q-1445 multimeter, with slightly different ranges to suit different purposes. This one features a capacitance checker (2nF to 20uF) in place of the battery check ranges, and goes to 20 megohms as its top resistance range. Features very high overload protection (at least 500 volts DC, up to 1200V DC on most ranges), and the meter is fuse protected. Resolution is a very respectable 100uV/100nA, with a very fast 300ms cycle time (3 readings per second) so you aren't waiting forever for the display to catch up with the circuit. Also has the folding carry handle/strap for versatility.
Cat Q-1465

- **Shipping weight: 241.7g**
- **Shipping size: 140 x 130 x 40mm**
- **Bright yellow colour with large LCD**
- **Continuity buzzer, transistor checking too**
- **Capacitor measurement up to 20uF**
- **Meter Size: 72 x 128 x 33mm**

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 0.2, 2, 20, 200, 750V
DC: 200uA, 2, 20, 200mA, 10A
AC: 200uA, 2, 20, 200mA, 10A
Resistance: 200, 2k, 20k, 200k, 2M, 20M
Capacitance: 2, 20, 200nF, 2, 20uF
Transistor Check: Hfe
Diode Check: 1mA, 3.2V
Continuity: Buzzer

$119

3.5 Digit LCD with Diode, Continuity and Temperature

A reliable, value-packed LCD that's ready for work! With many more ranges than most meters in its price bracket, this one includes full ranges of AC and DC current (up to 10A) with 6 different voltage ranges too. But more than this, it will check those diodes in your junk box as well as give a digital temperature readout. It's overload protected (up to 1kV DC or 750V AC) on all ranges, and with 12mm digits it's easy to read and easy to use. (Input impedance is a very high 10M//100pF on all ranges.
Cat Q-1511

- **Shipping weight: 330g**
- **Shipping size: 120 x 200 x 70mm**
- **Meter Size: 170 x 87 x 42mm**
- **1000 hours battery life**
- **Temperature readout • Probes included**
- **Checks diodes too**

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 0.2, 2, 20, 200, 700V
DC: 200uA, 2, 20, 200mA, 2, 10A
AC: 200uA, 2, 20, 200mA, 2, 10A
Resistance: 200 ohms, 2k, 20k, 200k, 2M, 20M
Temperature: -20 to 1370 degrees C
Diode Check: 2.8V @ 3mA
Continuity: Buzzer

$119

LCD Multimeter Cap/Checker

Yes! It not only features the normal ranges found on a digital multimeter, it also has five ranges of capacitance checking, two ranges of conductance AND a diode check position! All this in a very accurate (less than 0.25% on DCV) and a high impedance (10Mohm) instrument that is good enough for the designer's test bench, but has a low enough price for the hobbyist. All this plus overload protection, automatic polarity, 2.5cm LCD digits —and measurement to 10A AC and DC.
Cat Q-1460

- **Shipping weight: 365g**
- **Shipping size: 170 x 12 x 40mm**
- **Meter Size: 150 x 82 x 26mm**
- **Weight: 250g**
- **Auto polarity**
- **High Input Impedance**
- **Overload protection**

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 0.2, 2, 20, 200, 1000V
DC: 200uA, 2, 20, 200mA, 10A
AC: 200uA, 2, 20, 200mA, 10A
Resistance: 200 ohms, 2k, 20k, 200k, 2M, 20M
Conductance: 2uS,200nS
Capacitance: 2, 20, 200nf, 2, 20uF
Diode Test: 1mA, -2.8V

$99

LCD Multimeter Cap/Transistor Checker

Not just the usual voltage, current and resistance ranges — though it's certainly got those — it also checks capacitors (2 ranges, up to a whopping 20uF!) PLUS transistors and diodes. And even more: it's got an audible continuity checker. Plus other features — such as automatic zero of all ranges, high surge voltage protection, automatic overrange indication, high current measurement (10AC & DC) etc, etc — makes this the one digital multimeter you can do just about everything with! Looks like you'll have to check it out!
Cat Q-1500

- **Shipping weight: 625.4g**
- **Shipping size: 170 x 140 x 50mm**
- **Meter Size: 162 x 88 x 36mm**
- **Weight: 340g**

Ranges:
DCV: 0.2, 2, 20, 200, 1000
ACV: 0.2, 2, 20, 200, 700
DC: 200uA, 2, 20, 200mA, 10A
AC: 2, 20, 200mA, 10A
Res: 200, 2k, 20k, 200k, 2M, 20M
Cap: 2000pF, 20nF, 200nF, 2uF, 20uF
Transistor: Displays Hfe
Continuity: Buzzer & LED at <30 ohms
Diode Check: displays Vf (2.8V@1mA)

$129

At last!

Digital Capacitance Meter

Finally a meter specifically for capacitance is available. Very handy to sort through unknowns. Even handier when your other meters are tied up with circuit measurement. And it's more accurate than most "combined" meters. Huge 3.5 digit display giving range from a few pF to 200uF. Cat Q-1221

Specifications:

Range	Resolution	Accuracy
200pF	0.1pF	0.5% + 1dig
2nF	1pF	0.5% + 1dig
20nF	10pF	0.5% + 1dig
2uF	1nF	0.5% + 1dig
200uF	100nF	1.0% + 1dig

Power: Single 9V battery (200 hours life with alkaline)
Meter size: 150 x 74 x 30mm
Carton size: 170 x 110 x 50cm
Shipping weight: 260g

$99

One for the bench

4½ Digit Push Button Test Bench Multimeter

A small multimeter is great in the field — but on the work bench you really need something big, reliable and easy to read. This is it: the DSE 4.5 digit multimeter specifically intended for bench use. Of course, you can take it with you like a conventional multimeter (battery operated with 2 years battery life) but its size means it's more at home on the work bench. With dual slope integration measurement it's virtually immune from noise — and the 0.05% DCV accuracy means you'll never be left guessing again. As well as the standard multimeter measuring, it features continuity and diode test facilities. Includes tilting bail/handle, test leads and full instructions including recalibration procedure. Cat Q-1550

10 times more accurate than a 3.5 Digit DMM

Ranges:
DCV: 200uV, 2, 20, 200, 1000V
ACV: 200uV, 2, 20, 200, 750V
DC: 200uA, 2, 20, 200mA, 2A, 10A
AC:200uA, 2, 20, 200mA, 2A, 10A
Resistance: 0.2, 2, 20, 200k, 2, 20M
Diode: 1mA forward, 3V reverse

Continuity: Audible
Unit size: 214 x 265 x 100mm
Shipping size: 300 x 245 x 110mm
Shipping weight: 2.4kg

$199

At last! Frequency reading DMM!

It's finally happened: a digital multimeter with frequency reading... as well as all the advanced features of a top DMM (capacitance, transistors & diodes, continuity, etc) the Q-1505 also features direct frequency readout to 200kHz. Ideal for audio and general service work — now there really is one piece of test gear that does everything. And it even reads to 20A AC/DC! Cat Q-1505

- **Shipping weight: 570g**
- **Shipping size: 190 x 150 x 50mm**
- **Frequency to 200kHz**
- **Current to 20A**
- **Transistors, diodes & capacitance too**

Ranges:
DCV: 0.2, 2, 20, 200, 1000
ACV: 0.2, 2, 20, 200 750
DC: 200uA, 2, 200mA, 20A
AC: 2, 200mA, 20A
Res: 200, 2k, 20k, 200k, 2M, 20M
Cap: 2000pF, 200nF, 20uF
Transistors: Hfe
Diodes: Vf
Frequency: 20kHz, 200kHz

Top quality rubber insulated probes/ leads included

$159

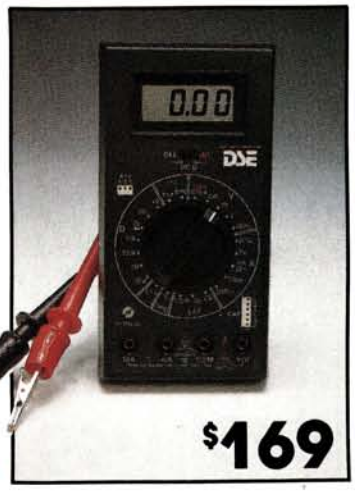
LCD Multimeter with Temperature

Versatile 3.5 digit multimeter for all your standard testing PLUS temperature reading for technical, scientific and hobbyist jobs... all for an amazing low price! Temperature range (in both degrees F and C) covers an astounding -20 to 1370 degrees Celcius with +/-0.3% +/-1°C accuracy: ideal for checking the thermal stability of amplifiers, heatsinks or any number of technical and scientific applications. The 'buzzer' continuity check has a response time of less than 100ms. Plus conductance and capacitance measurement. Cat Q-1512

- **Shipping weight: 565g**
- **Shipping size: 190 x 120 x 50mm**
- **Meter Size: 170 x 87 x 42mm**
- **Weight: 382g**

Top quality leads included.
Temperature probe included.

Ranges:
DCV: 0.2, 2, 20, 200, 1000
ACV: 0.2, 2, 20, 200, 750
DC: 200uA, 2, 20, 200mA, 2, 10A
AC: 2, 20, 200mA, 2, 10A
Res: 200, 2k, 20k, 200k, 2M, 20M
Conduct: 200nS
Cap: 2000pF, 2uF, 20uF
Transistor: Displays Hfe
Continuity: Buzzer at <200 ohms
Diode Check: displays Vf (2.8V@3mA)
Temperature: -20 to 1370 degrees C



$169

4.5 digit with Data Hold Function

What was the result? With most meters, digital or analogue, the reading is but a moment in time. If you miss it... The DSE Q-1600 solves the problem: hit the "data hold" button and the reading is frozen on the display — until you clear it. Very handy for test and evaluation procedures, standard service work, etc. Another highly unusual feature is its 20A range — double most meters. And that's on both DC and AC. Add to that transistor and diode checking, capacitance, plus buzzer and LED continuity, and you have one of the most versatile meters ever produced. Cat Q-1600

- **Shipping weight: 570g**
- **Shipping size: 190 x 150 x 50mm**
- **Meter Size: 176 x 90 x 40mm**
- **Weight: 380g**
- **"Data Hold" function**
- **Up to 20A current reading**
- **Capacitance & transistors too**

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 2, 20, 200, 750V
DC: 200uA, 2, 200mA, 20A
AC: 2, 200mA, 20A
Resistance: 200, 2k, 20k, 200k, 2M, 20M
Capacitance: 2, 20, 200nF, 2, 20uF
Transistor Check: Hfe
Continuity: Buzzer & LED

Top quality rubber insulated leads included

$225

4.5 LCD with 0.05% Accuracy

Professional quality multimeter that you'll be proud to own and readily depend on! Large LCD reads voltage/current, continuity (buzzer also), low battery warning and overrange indication with the 4 least significant digits blanked. The data hold locks on the display for a valid reading. Features gold plated PCB, 10M ohm input impedance on all AC/DC ranges. And it is completely shield protected against radio frequency interference. Includes one pair of test leads, spare fuse (0.2A/250V) and operation manual. Q-1510

- **Shipping weight: 529g**
- **Shipping size: 210 x 160 x 80mm**
- **Very High Accuracy**
- **4.5 digit display**
- **Our best meter**
- **Size: 170 x 87 x 42mm**
- **Weight: 356g**

Ranges:
DCV: 0.2, 2, 20, 200, 1000
ACV: 0.2, 2, 20, 200, 750
DC:2, 20, 200mA, 10A
AC:2, 20, 200mA, 10A
Res: 200, 2k, 20k, 200k, 2M, 20M
Continuity: Buzzer at <200 ohms
Diode Check: displays Vf

Top quality rubber insulated leads included

$199

Digital Lux Meter

Ideal for photographers, video users, laboratories — anywhere there's a need to measure light quickly and accurately! The DSE Digital Lux Meter is fantastic value — you'll pay twice as much at a photo store. Accurately measures up to 50,000 LUX over three range selections and comes complete with its own carry case! Cat Q-1400

- **0-50,000LUX**
- **Auto Zero**
- **Low Battery Indicator**
- **13mm Display**
- **150-200 Hours Continuous Use**

Shipping weight: 195g
Shipping size: 130 x 80 x 40mm

$129

Even measure windspeed!

Imagine the applications: boating, sporting, scientific, commercial, aviation... now you can get a highly accurate measurement of true windspeed in the palm of your hand! Measures speed in knots, miles per hour or metres/second — and displays results on a 3 digit LED display. Sapphire jewel bearings for minimum resistance, maximum life. Complete with lanyard, pouch and comprehensive instructions. Cat Q-1405

Specifications:

Accuracy: normally 3% maximum (4% on "knots")
Range: 99.9 mph, 87.9 knots, 8790 feet/ min, 44.8 m/s
Size: 29.5 x 66 x 118mm
Weight: 85g
Shipping weight: 95g

$159

Test Equipment

Budget Mini Multimeter

A great little multimeter for anyone starting out... or for anyone who is likely to knock their multimeter around a lot. For way under $20 you get an 11 range, 2000ohm/volt pocket sized meter that's ideal for most of the general test work we all do. It's rugged and reliable, measures just 92 x 60 x 30mm and weights in at only 158g. Throw one in the tool box in case! Cat Q-1010

- **Diode protected**
- **12 ranges plus dB**
- **2000 ohms/volt sensitivity**
- **Meter size: 90 x 60 x 30mm**

Ranges:
DCV: 10, 50, 250 & 1000
ACV: 10, 50, 250 & 1000
DC: 100mA
Res: x10, x1k
dB:-10 to +62

$16.95

Multimeter with audible continuity tester

A compact, reliable multimeter with an added bonus: a built-in buzzer for continuity testing! Also has a battery checker PLUS 10A DC range — not normally found on low-priced multimeters! On top of this, you get a high sensitivity (20,000 ohms per volt) meter mirrored scale and large banana plugs for sure contact. Cat Q-1022

- **Diode and fuse protection**
- **19 ranges plus dB**
- **Built-in battery checker plus continuity checker**

- **Shipping Weight: 450g**
- **Carton Size: 150 x 130 x 45mm**
- **Meter Size: 135 x 92 x 40mm**
- **Weight: 330g**

Ranges:
DCV: 2.5, 10, 50, 250 & 1000
ACV: 10, 50, 250 & 1000
DC (mA): 5, 50, 500 & 1A
Res: x1, x10, x1k
Batt: 1.5V, 9V
Continuity
dB:-8 to +62

$39.95

A two-in-one Multimeter & Logic Tester

Virtually two instruments in one! It's perfect for digital circuit troubleshooting because as well as normal multimeter functions it also has a built-in logic tester! Three LEDs give 'HIGH', 'LOW' and 'PULSE' states of logic circuits. 18 voltage, current and resistance ranges, with 20K ohm/V sensitivity DC and 8K ohm/V AC. Shielded movement is unaffected by external magnetic fields. The ideal serviceman's multimeter. Cat Q-1026

- **Built-in Logic Tester**
- **20 Ranges**
- **Diode & Fuse Protection**

- **Carton Size: 150 x 130 x 50mm**
- **Shipping weight: 336g**
- **Meter Size: 140 x 92 x 30mm**
- **Weight: 240g**

Ranges:
DCV: 0.3, 3, 12, 60, 300, 1200
ACV: 6, 30, 120, 300, 1200
DC: 0.06, 3, 30, 300mA
Res: x1, x10, x1k, x10k
dB: -10 to +63
Logic: (test 5V) Lo - 1.5V Hi - 3V Pulse - 3.3MHz

$42.95

Not just a multimeter! Transistor Capacitance Checker too!

Almost a complete test bench in one package — no wonder it's our best selling multimeter! With 100,000 ohm per volt sensitivity and ranges to cover every test set-up, this outstanding meter is all the hobbyist will ever need — and it's just at home on the service bench or in the lab! Measures transistors Ico and Hfe for both NPN and PNP (also good for diode testing) and has an inbuilt transistor oscillator for capacitance measurement. Cat Q-1140

- **Fuse PLUS diode protection**
- **High Sensitivity — 100k/V**
- **10A AC & DC scales**

- **Carton Size: 230 x 160 x 90mm**
- **Shipping Weight: 1.6kg**
- **Meter Size: 180 x 140 x 80mm**
- **Weight: 1.3kg**

Ranges:
DCV: 0.25, 2.5, 10, 50, 250, 1000
ACV: 5, 10, 50, 250, 1000 (10k/V)
DC: 10uA, 2.5mA, 25mA, 500mA, 10A
AC: 10A
Decibels: -10 to +62
Resistance: x1, x10, x1k, x10k
Transistors: Hfe 0-1000 Ico 0-50uA
Capacitance: 50pF-3uF, 0.01uF-50uF

$80

Covers, Pouches, etc

Protect your multimeter...

Q-1011 — Soft protection cover for both Q-1010 meter and leads.

$3.45

Q-1514 — Soft protection pouch to any of Q-1510, Q-1511 or Q-1512.

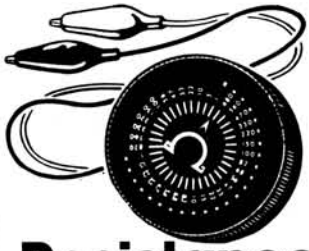
$9.95

Q-1513 — Soft protection pouch to suit any of Q-1515 or Q-1516.

$9.95

Q-1522 — Flexible but hard cradle to suit Q-1515 or Q1516. Impact absorbing, suitable for either desk/bench use or belt mounting.

$9.95



Resistance Substitution Wheel

Convenient size with large, easy to read value selection that enables you to select values from 5 ohms to 1M ohm in 36 steps by using most common divisions. Complete with leads and insulated crocodile clips. Cat Q-1410

$16.95

Electronic FET VOM Reads P-P & RMS!

Very few multimeters can read peak-to-peak voltages: this one can! And even more — because it's electronic, you can adjust the pointer to centre scale for nulling. That's versatile! This extra rugged meter is professional quality: ideal for the service bench or the field — but it's price is more for the hobbyist. And with a single range switch there's no mad lead swapping every time you want to change measurements. It's overload protected, with a mirrored 90 degree scale for really accurate reading. Requires two "AA" and one 9V battery. Cat Q-1143

- **Shipping weight: 730g**
- **Shipping size: 200 x 210 x 90mm**
- **Meter Size 125 x 170 x 50mm, weight 480g**
- **Full electronic (FET) operation**
- **High input impedance**

Ranges:
DCV: 0.3, 1.2, 12, 30, 120, 300, 1200 (10M ohm input imped)
ACV: 3, 12, 30, 120, 300, 1200V (plus pk-pk; approx 1MHz
DC: 0.1uA, 0.3, 3, 30, 300mA, 12A
AC: 12A
Decibels: -10 to+63
Resistance: x1, x10, x100, x10k, x1M
AC Bandwidth: 1MHz

$79.95

Value! Transistors, capacitors, buzzer PLUS Temperature!

Amazing value for all this in one package. All the usual voltage, resistance and current ranges (even 10A AC/DC!) plus much, much more: it measures transistor gain (the best go/no go check), capacitance up to 20uF — as well as a buzzer continuity checker. And it also measures temperature — up to a massive 1000 degrees C! Now you can tell if your amplifier is getting too hot — no more guesswork... All this in a rugged, pro-quality meter with single knob selection, reversing switch, dual overload protection (fuse and diode) and 20k/V impedance. Requires two "AA" and one 9V battery. Cat Q-1145

- **Shipping weight: 730g**
- **Shipping size: 200 x 210 x 90mm**
- **Perfect for the work bench or tool box**
- **Check those odd transistors**
- **Mirrored scale for accuracy**
- **Meter Size:110 x 160 x 50mm**

Ranges:
DCV: 0.5, 5, 50, 500, 1000 (20k/V)
ACV: 2.5, 25, 1000V
DC: 50uA, 25, 500mA, 10A
AC: 10A
Decibels: -20 to +62
Resistance: x1, x10, x100, x1k
Capacitance: 100pF - 20uF
Temperature: 0 to 2000 degrees F
Transistor Hfe: 1-1000 (NPN/PNP)
Continuity: Buzzer

$79.95

Budget price match-mates!

Bench Ammeter

At last! A budget-priced bench meter for the classroom, college, etc. And it's also great in the ham shack, on the test bench... anywhere! Now your multimeter can be used for checking other functions while you leave this one in circuit! Very large (80 x 80) sloping scale so it's ideal for demonstrations and teaching, with a wide viewing angle, in a tough ABS case. Cat Q-2130

- **Perfect for educational use**
- **And the service workbench**
- **Large dial on sloping case for ease of viewing**
- **Meter size: 140 x 100 x 100mm**

Ranges:
Measures 0 to 1A DC and 0 to 10A DC
Accuracy: +/-2.5%
Connections: 4mm banana terminals
Shipping weight: 345g
Shipping size: 140 x 110 x 100mm

$29.95

Bench Voltmeter

And a matching voltmeter, too. It has the same features as the ammeter, but measures 0 to 10V DC and 0 to 20V DC, with the same 2.5% accuracy. The 20 volt scale is invaluable in automotive service and test areas (car hi-fi and CB radio service, for example) as the range of voltages normally of interest are right in the middle of the scale, not crammed up one end. And the 10 volt scale has the spread you need for checking low voltages. A "must" for the hobbyist's workbench too. Cat Q-2140

- **Great partner for bench meter**
- **Educational or hobby use**
- **Ideal amateur station voltage monitor**
- **Unit size: 140 x 100 x 100mm**

Ranges:
0-10VDC 0-20VDC
Accuracy: +/-2.5%
Connections: 4mm banana terminals
Shipping weight: 340g
Shipping size: 140 x 110 x 100mm

$29.95

Multimeter Replacement Lead Sets

Always losing your multimeter leads? Join the club! And shoving a bit of wire into the hole is a little dangerous... Here's the solution: a replacement lead set. 900mm long multistrand leads, colour coded red and black, with standard "probe" ends (100mm long probes & 20mm long points) and 1.5mm multimeter terminal points the other (as used on our Q-1010 and many other multimeters). Buy a couple of sets... just in case! Cat W-4504

$3.50 each
10 up $3.00 ea

"Banana" Multimeter Lead Sets

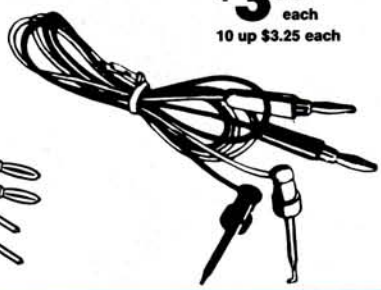
Similar to previous multimeter lead set, but instead of the fine point these have standard 4mm banana plugs — as used on most modern multimeters including digitals. And the 4mm banana plugs also fit standard terminals as used on our Q-1230 bench meters and many other test instruments. So now you can get a spare set of multimeter leads AND a spare set of leads for all your other test gear. Colour coded red and black leads, 900mm long with probe points one end. Cat W-4508

$1.95 each
10 up $1.85 each

IC Multimeter Lead Sets

The best of both worlds: standard 4mm multimeter plugs one end, but on the other they have insulated IC clips. A "must" for anyone working with IC's (or any other circuits). Allows you to "hook on" and leave hands free for adjustments, other tests, etc. Colour coded red and black, 900mm long leads. Cat W-4509

$3.99 each
10 up $3.25 each



Coiled Test Leads Self Retracting

You know the problem of meter leads cluttering up the bench? It won't happen with these leads: they're coiled and return to the coiled shape after being extended. A red and black pair with 1.5mm meter plugs. Cat W-4520

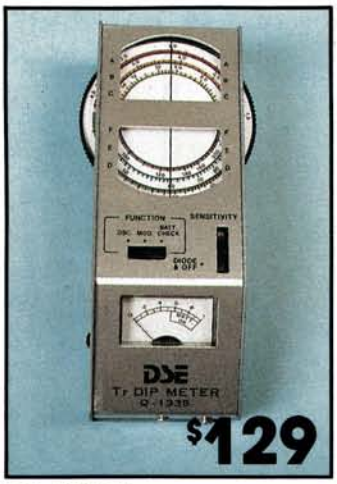
$6.95 each
10 up $6.40 each

Transistor Dip Meter

Anyone working with RF circuits will tell you one of the handiest pieces of test gear to have around is a "dipper": an instrument which detects resonances by showing a "dip" in a meter. The advantage is no physical circuit connection is required (it works on inductive or capacitive coupling) so a dipper is ideal for working on live RF circuits. At last there's a Transistor Dipper which won't break the bank — but has performance and specs right up there with units costing $$$ more. The ARRL tells what to look for in a dipper — mechanically and electrically stable, good coils, a headphone connection and battery operated. The DSE Transistor Dipper satisfies all these requirements and more! Cat Q-1335

Specifications:
Frequency range: 1.5 to 250MHz
Frequency selection: 6 colour coded plug-in coils
Crystal Oscillator: 1-15MHz
Modulation: Approx. 2kHz sine wave
Power Supply: Internal 9V battery

STOCK AVAILABLE SOON!



$129

Hand-Held RC Oscillator

A really worthwhile addition to your test gear: a hand-held oscillator that's small enough to take anywhere. About the same size as a digital multimeter, it gives you 23 ranges of sine and square waves (switchable) between 20Hz and 1.5kHz, plus a ×100 range: 46 settings in all. Continuously variable amplitude and a -20dB attenuator built in gives total control. And you can sync the signal if your wish. Output is standard 600 ohms. Cat Q-1220

Complete with clip test leads

Specifications:
Range: ×1 20Hz to 1.5kHz
×100 2kHz to 150kHz
Accuracy: 20Hz to 100kHz +/-3%
above 100kHz +/-5%
Output control: 0dB, -20dB + fine adjust
Output impedance: 600 ohms +/-10%
Waveform: Square or Sine, switchable
Square wave: 9V p-p max, rise time <0.5us Sine wave: 1.2V rms
Shipping weight: 220g
Carton size: 115 x 35 x 160mm
Max distortion: 0.3% THD

$99

Wideband RF Signal Generator

Low cost RF signal generator that's ideal for the hobbyist/amateur as well as the seviceman. Great for checking and aligning IF circuits and tuners in AM, FM, and TV sets plus a huge range of general purpose service, troubleshooting and development work. Cat Q-1312

Shipping weight: 3.040kg
Shipping size: 300 x 230 x 200mm

Specifications:
Frequency range: 100kHz to 150MHz in six overlapping ranges
Accuracy: +/-1.5%
RF output: 100mV rms approx (up to 35MHz)
Modulation: 1kHz internal, 50Hz-20kHz external
Audio output: 1kHz at 1V rms (fixed)
Crystal oscillator: 1-15MHz external crystal, FR243 holder
Supply voltage: 240V

$179

'Pigeon Pair'

AF Signal Generator

Square/Sine wave output audio signal generator, essential for work on huge range of circuits. With wide 20Hz-200kHz output and high accuracy, it is the perfect partner for the above RF generator. Cat Q-1310

Shipping weight: 3.040kg
Shipping size: 300 x 230 x 200mm

Specifications:
Frequency range: 20Hz-200kHz
Accuracy: +/-5% -2 Hz
Output impedance: 600 ohms unbalanced
Output control: High/Low unbal. (-20dB) and fine adjuster
Sine wave output: 20Hz-20kHz, 5V rms max at 1% or less distortion
Square wave o/p: 20Hz-20kHz, 10V p-p, 0.5us rise time
Sync: +/-3% of oscillator frequency per V rms

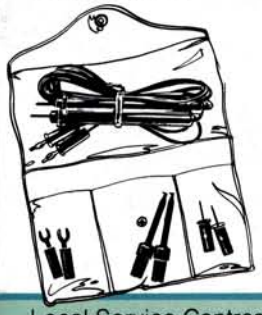
$179

Multi-Piece Test Lead Set

What value! Budget set designed for the hobbyist, technician, etc. Long (1.2m) red and black test leads usable in their own right with 4mm banana plugs one end and 1.5mm probes the other. Also included are a pair of e-z hooks and a pair of open-end lugs. The 1.5mm probes plug into these to change the probe type. Simple but it works very well indeed. Cat W-4523

All housed in protective plastic wallet.
Wallet size: 160 x 85 x 20mm
Shipping weight: 70g

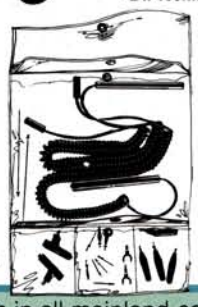
$5.75



Universal Test Lead Set

The professional model: the ultimate set for the engineer, technician or advanced hobbyist. It's a screw-together system which allows virtually unlimited choices in probe types and ends.

The set comprises 21 pieces:
- **Red & black "curly" test leads which stretch out to over 2m, with 25mm insulated handles one end and 100mm handles the other.**
- **4 x 18mm long 1.5mm probes**
- **2 x open-ended spade lugs**
- **2 x 100mm long 1.5mm probes**
- **4 x alligator clips**
- **4 x 4mm banana plugs**
- **2 x right angle adaptors**
- **All housed in a plastic protective wallet**



To make the test leads you want, just screw in the connectors you want. It's that simple! And it suits virtually any meter or test gear available. Cat W-4528

$19.95

DMM Lead Set

Designed especially for modern digital multimeters (such as out Q-1510, Q-1512 and Q-1515 DMM's) this superb lead set features fully shrouded right-angle meter plugs (no chance of exposed metal to zap you!), 1.1 metre long cables, and a unique threaded 1.5mm probe with 100mm handle. The purpose of the thread is to allow other tips: a pair of threaded alligator clips is supplied which, when screwed on, are also fully shrouded for complete safety. As well as DMM's, these leads would also be ideal for many other 4mm "banana" type sockets. Cat W-4510

Shipping weight: 85g
Shipping size: 210 x 80 x 20mm

$9.95

Ultra-flexible Multimeter Cable

Designed especially for test gear use, this 512 strand (yes, count them: 512 wires!) cable will take the bends, kinks and knots that would destroy conventional cable. And because there are so many strands, cable resistance is very, very low — not measurable on most test equipment. Of course, this cable is also ideal for connection to moving parts (eg car door speakers, machinery, etc) where continuous movement would break normal cable. Cat W-4016

Pack contains 2 metres each of 3mm red and black cable (4 metres total).

$7.65

E-Z Cable Checker

The name says it all! Every roadie, every band in the world needs one of these. Even the amateur sound recordist, club or church PA operator — anyone involved in audio cables will find the E-Z Check invaluable. Simply plug your cable in — Cannon, 6.5mm mono or stereo, RCA or BNC — and a series of LEDs tell you if it is okay. Imagine the time savings when searching for that elusive cable fault (if you've ever worked with cables, you'll know how elusive faults can be!) Works equally well with patch cables having different connectors on each end (eg Cannon to RCA). Requires only single 9V battery (not included). Rugged, heavy-weight steel case will handle the knocks that roadies can dish out, with heavy duty non-scratch rubber base. Cat Q-1532

Specifications:
3-pin checking for Cannon and Stereo 6.5mm
2-pin checking for RCA and BNC
Push-button LED indication
Power: 9V battery
Unit size: 138 x 90 x 70mm
Shipping weight: 728g
Carton size: 160 x 115 x 80mm

$79.95

3-State Logic Probe

A superb time-saving tool for the engineer, technician or hobbyist. Much easier and more practical than tying up your multimeter or CRO: you'll be able to tell at a glance what the logic state is of the circuit under test by seeing which LED is glowing. Power is obtained from circuit under test (5V) via test clips, and the probe point is fine enough to touch individual IC legs, etc. "High", "Low" or "Pulse" states are revealed by individual LEDs. And it's small enough to be held in one hand, leaving, your other hand free for adjustments. Cat Q-1272

Shipping weight: 96g
Carton size: 230 x 120 x 20mm

Features:
- **Adjustable threshold for DTL/TTL or CMOS circuits**
- **Two modes of operation: pulse (with time stretching so you don't miss quick pulses!) and mem (holds display until cancelled).**
- **Low circuit loading (approx. 30uA input)**
- **Tested to 12.6MHz**

$37.75

DSE 20MHz Dual Trace CRO with inbuilt component checker

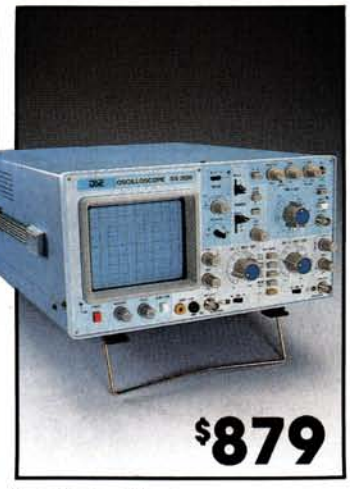
You could buy one of those big-name oscilloscopes (the ones with the big-name price tags) and you probably wouldn't get all the features of the DSE CRO. It's a fully professional quality dual trace model offering outstanding performance for the price!

- 20MHz bandwidth (-3dB)
- Use in single or dual trace mode
- Dual trace in chopped or alt mode
- Complete with 2 probe sets
- Inbuilt component checker — for capacitors, inductors, transistors, diodes, zeners, etc.
- And much, much more!

If you're serious about electronics, you'll want a good CRO. This is it: and it won't break the bank! Cat Q-1260

Shipping weight: Approx. 10kg
Carton size:530 x 320 x 430mm

Specifications:
DC-20MHz (-3dB), with less than 17.5ms rise time and 3% overshoot
Deflection: 5mV/div to 5V/div in 10 calibrated steps (1-2-5 sequence)
Accuracy: +/-3%
Timebase: 0.1us/div to 2/div in 20 calibrated steps (1-2-5 sequence)
Uncalibrated control to at least 5/div
Triggering modes: peak or normal from either/both channels or external
Trigger Sensitivity: 0.5V/div
Sweep delay: 0.1us to 10ms in 6 steps



$879

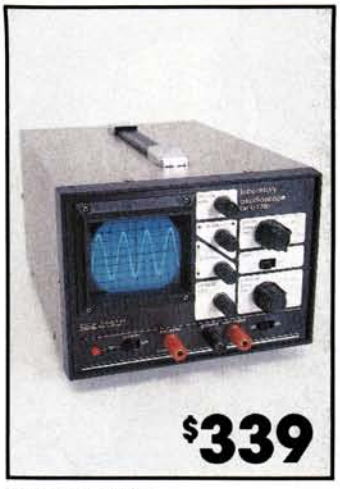
Professional Quality... Professional Performance: 6.5MHz CRO

Every hobbyist knows how valuable a good oscilloscope is: probably the most useful piece of test gear you can own.

Here's what it offers:
- Retrace blanking for a much clearer display
- 10mV per division vertical sensitivity
- 250mV/division external horizontal sensitivity
- 10Hz to 100kHz, plus external timebase
- Internal or external sync
- Useable response to beyond 6.5MHz

Ideal for the shack, the work bench, in service work, in the classroom and also in assembly applications. Solid state electronics (apart from the tube!) means fast warm-up and extremely low drift. Cat Q-1280

Specifications:
Vertical bandwidth: DC to 6.5MHz (-3dB)
Attenuator: 1/1, 1/10, 1/100 and ground
Horizontal sensitivity: 250mV/div or more
Timebase: 10Hz to 100kHz
Sync: External or internal
Input Impedance: 1Meg//35pF
Shipping weight: 4.2kg
Carton size: 400 x 200 x 250mm



$339

Alligator Clips

Colour-coded spring-loaded clips with insulated handles for temporary circuit mock-ups, battery and power supply connection, and so on.

Mini Size

Fully insulated with plastic shroud almost fully covering clip. Easy to solder to, or can be used solderless by using crimp lugs.

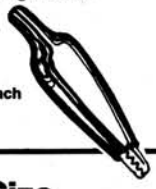
Overall shroud length 32mm
Red: Cat W-4550
Black: Cat W-4552

40¢ each
10 up 35¢ each

Large Size

Similar to mini clips, but capable of larger current carrying capacity. Also usable in soldered or solderless mode.

Overall shroud length 50mm
Red: Cat W-4554
Black: Cat W-4556



60¢ each
10 up 55¢ each

Giant Size

Intended for battery connection, these clips have wide, flat jaws which open to almost 15mm for battery terminals, etc. High current capacity because of the wider connecting surface.

Overall shroud length 70mm
Red: Cat W-4558
Black: Cat W-4560

$1.95 each
10 up $1.75 each

Test Clips

Feature tiny hooks to connect around component leads or pins without shorting to the next lead or pin. Plunger action exposes hook, releasing plunger withdraws hook into shroud for maximum safety.

Mini Size

Perfect for IC work, etc, because of the small size. Hook size allows up to 1.5mm diam pins to be connected. Lead enters through handle and solders direct to probe.

Overall length 46mm
Red: Cat W-4584
Black: Cat W-4586

90¢ each
10 up 80¢ each

Large Size

Slightly larger than above, similar to the famous E-Z Hook but much lower in price. Easy to solder to, work on same principle with 1.5mm diam wire/pin handling capacity.

Overall length 56mm
Red: Cat W-4580
Black: Cat W-4582

$1.10 each
10 up $1 each

Giant Size

Famous Miyama brand hook probes with l-o-n-g probe to get into difficult places. Overall length is 137mm, most of which is the handle! No-soldering design: test leads connect into handle with thumbscrews. Hook capacity approximately 3mm.

Overall length 137mm
Red: Cat W-4589
Black: Cat W-4590

$3.95 each
10 up $3.20 ea

Test Equipment

Famous Oskerblock HF/VHF SWR Power Meter

One of the most famous test instruments in the world! the Oskerblock SWR-200 has earned a very high reputation amongst amateurs and professionals for its ease of use, accuracy and versatility. The SWR-200 is a directional coupler type SWR meter with a through-line power meter built in. It is suitable for both 52 ohm and 75 ohm systems, and reads up to 2kW on HF and 200W on VHF. Each Oskerblock SWR-200 is supplied with its own individually prepared calibration chart, housed in a tough plastic envelope. Cat Q-1340

Specifications:

BAND	SWR. METER (MAX. PWR)	POWER METER (MAX. SCALE)
80	100W	200/2kW
40	50W	200/2kW
20	15W	20/200/2kW
15/10	5W	20/200/2kW
6/2	1W	2/20/200W

Connectors: SO239

Shipping weight: 1.3kg
Carton size: 235 x 125 x85mm

$159

Oskerblock for VHF: SWR-145

Like its HF brother, the Oskerblock SW-145 is highly accurate and a worthy addition to any amateur's test gear collection. Again, it features a directional coupler-type SWR meter and a through-line type power meter with a top range on two metres of 250 watts. The big advantage of the SWR-145 for VHF users is the very low power necessary for full scale: just 0.5 watts at 145MHz. Designed to be left "in situ" for permanent readings, the SWR-145 uses SO-239 sockets for easy connection. Cat Q-1341

Specifications:
Bandwidth: 144 - 155MHz
Impedance: 50 ohms
Full Scale minimum power: 0.5W
Full Scale maximum power: 5W, 25W and 250W
Accuracy: 10%

Unit size: 85 x 170 x 110mm
Shipping weight: 1.2kg
Carton size: 140 x 85 x 200mm

$125

And an Osker for 70, too: SWR-435

Covering the full UHF amateur band, the Oskerblock SWR-435 is the perfect aid for the keen UHF'er. Micro-match strip line SWR meter gives direct reading of SWR with a minimum power of only 1 watt: and the through-line power meter handles up to 125 watts. Impedance is 50 ohms so its ideal for the vast majority of amateur applications. Connection is SO-239. Designed for continuous in-line use. Cat Q-1342

Specifications:
Bandwidth: 420 - 450MHz
Impedance: 50 ohms
Full Scale minimum power: 1W
Full Scale maximum power: 5W, 25W & 125W
Accuracy: 10%

Unit size: 85 x 170 x 110mm
Shipping weight: 1.2kg
Carton size: 140 x 85 x 200mm

$149

Plug-in Hand-Held Power Meter

FAMOUS WELZ BRAND

Many hand-helds don't have power meters. Of those that do, any relationship between output power and the reading is often coincidental! Here's the perfect way to check the output of your hand-held — anywhere between 6 metres and 70cm! Just replace your hand-held's antenna with this meter and you get direct readout of power. Inbuilt dummy load means you're not going to cook anything while measuring. Cat Q-1343

- **BNC connector plugs into hand-held antenna socket**
- **Handles 5 watts (inbuilt dummy load)**
- **SWR1.1:1 or less across entire band 50 to 500MHz**
- **Graduated in watts**

Shipping weight: 90g
Carton size: 100 x 60 x 90mm

$29

Battery, Lamp and Fuse Tester

Make sure you're not throwing away a fortune! Checks a huge range of 1.5V-9V cells actually under load: the only way to check them! Even checks NiCads, calculator, watch and photographic batteries. Also checks miniature lamps and cartridge fuses for continuity. Cat Q-1525

Can be used as NiCad battery charger with optional 6V adaptor (M-9525).

$17.95

Shipping weight: 200g
Shipping size: 100 x 90 x 70mm

Especially for 27MHz CB: Power, SWR & built-in Field Strength

Find out all about the set output, the antenna SWR, even the directional qualities of the signal (great for mobile installations). 50 ohm meter can be left permanently in-line or taken out for field strength measurements. Full instructions are provided to make sense of the readings — even for the non-technical person. Cat Q-1350

Specifications:
Power: 10W full scale
Frequency: 26 - 30MHz
Impedance: 50 ohms
Connectors: SO-239
Unit size: 57 x 64 x 64mm
Shipping weight: 390g
Carton size: 105 x 90 x 70mm

$39.95

Semi Conductors

SILICON TRANSISTORS

Type No.	Cat No.	Price Ea	Price 10 up	Pol	Vce	Ic (mA)	P(tot) (mW)	Ft (MHz)
BC159	Z-1359	.20	.15	PNP	20	100	300	150
BC327	Z-2240	.30	.25	PNP	45	800	800	100
BC328	Z-2242	.30	.25	PNP	25	800	800	100
BC337	Z-2190	.30	.25	NPN	45	800	800	200
BC338	Z-2252	.30	.25	NPN	25	800	800	200
BC107	(See DS547)							
BC108	(See DS548)							
BC109	(See B549)							
BC179	(See BC159)							
BC549C	Z-1329	.45	.40	NPN	30	100	500	300
BC639	Z-1388	.60	.55	NPN	80	1A	1W	130
BC640	Z-1389	.60	.55	PNP	80	1A	1W	50
BD139	Z-1443	.80	.75	NPN	60	1A	8W	250
BD140	Z-1444	.80	.75	PNP	80	1A	8W	75
BD262	(See BD682)							
BD263	(See BD681)							
BD681	Z-1462	$2.60	$2.40	NPN	100	4A	40W	1
BD682	Z-1460	$2.60	$2.40	PNP	100	4A	40W	1
BUX80	Z-2150	$8.70	$8.50	NPN	400	10A	100W	8
BF115	Z-1560	$1.09	$1.00	NPN	30	30	145	230
BF173	Z-1590	$2.40	$2.30	NPN	25	25	230	550
BF199	(See BF173)							
BF469	Z-1635	$1.70	$1.60					
BF470	Z-1636	$1.70	$1.60					
BFR91	Z-1691	$3.95	$3.75	NPN	12	36	180	5GH
DS547	Z-1300	.20	.15	NPN	45	100	500	300
DS548	Z-1308	.20	.15	NPN	30	100	500	300
DS549	Z-1319	.20	.15	NPN	30	100	500	300
DS557	Z-1340	.20	.15	PNP	45	100	300	150
DS558	Z-1348	.20	.15	PNP	25	100	300	150
MJ2955	Z-1800	$2.70	$2.75	PNP	60	15A	115W	4
MJ15003	Z-1808	$7.80	$7.75	NPN	140	20A	250W	2
MJ15004	Z-1810	$7.80	$7.75	PNP	140	20A	250W	2
MJE340	Z-2010	$1.90	$1.70	NPN	300	500	20W	-
MJE2955	Z-2005	$1.95	$1.85	PNP	60	10A	75W	2
MJE3055	Z-2008	$1.95	$1.85	NPN	60	10A	75W	2
MRF660	Z-2508	$20.95	$18.50					
PN3563	Z-2180	.60	.55	NPN	12	50	200	600
PN3642	Z-2250	.90	.85	NPN	45	500	350	250
PN3645	Z-2256	.40	.35	PNP	60	500	300	200
PN4250	Z-2320	.25	.20	PNP	40	10	200	50
PN4258	Z-2326	.60	.55	PNP	12	50	200	700
TIP31B	Z-2020	$1.70	$1.60	NPN	80	3A	40W	3
TIP32B	Z-2024	$1.70	$1.60	PNP	80	3A	40W	3
TT797	(See 2N4030)							
TT800	(See 2N4030)							
TT801	(See 2N3019)							
2SC710	Z-2512	$3.05	$2.75					
2SC1096	Z-2500	$3.10	$3.00	NPN	30		10W	60
2SC1674	Z-6005	$1.45	$1.35	NPN	20		250	600
2SC2166	Z-2501	$8.70	$8.50	NPN	30		20W	150
2SC1969	Z-2502	$5.25	$5.15	NPN	75	4A	1.5W	
2SC2694	Z-2505	$47.25	$46.95	NPN	20	20	75W	175
2SC3355	Z-6006	$1.75	$1.65	NPN				
2SC3358	Z-6007	$1.75	$1.65	NPN				
2N2222A	Z-2069	.85	.80	NPN	40	800	500	300
2N3019	Z-2068	$1.35	$1.25	NPN	30	1A	800	100
2N3055	Z-1804	$2.15	$2.00	NPN	40	700	2.86	100
2N3904N	Z-2070	.35	.30	NPN	60	15A	115W	.08
2N3905	Z-2244	.35	.30	PNP	40	200	310	-
2N3905A	Z-2071	.30	.25	PNP	40	200	310	200
2N4030	Z-2064	$1.65	$1.49	PNP	40	200	310	200
2N4292	(See 2N3019)			PNP	60	1A	800	100
2N4427	Z-2506	$4.20	$4.10	NPN	20	400	315	500

FIELD EFFECT TRANSISTORS

Type No.	Cat No.	Price Ea	Price 10 up	Pol/ Const	Vgss V@Ig(uA)		Vgs (off) Min	Max @	Vds
MFE131	Z-1849	$2.30	$2.20	NCH MOS					
MPF102	Z-1832	.95	.90	NCH J	25	10	0.5	8	15
MPF105	Z-1838	.60	.55	NCH J	25	1	-	8	15
MPF106	Z-1840	$1.90	$1.30	NCH J	25	1	0.5	4	15
MPF131	Z-1848	$1.25	$1.80	NCH MOS					
2N4342	Z-1833	$1.50	$1.45	PCH J	25	10	-	5	10
2N5245	Z-2335	$1.50	$1.40	NCH J	30	1	1	6	15
2N5484	Z-2340	$1.05	.95	NCH J	25	1	0.3	3	15
2N5486	Z-2073	$1.15	$1.05	NCH J	25		2	6	15
PN4360	Z-2074	$1.15	$1.05	PCH J	40		0.5	6	15

For full data, case outlines, etc. see Data Section commencing on page 121.

GERMANIUM TRANSISTORS

Type No.	Cat No.	Price Ea	Price 10 up	Pol	Vce	Ic (mA)	P(tot) (mW)	Ft (MHz)
AC126	Z-1054	$2.10	$2.00	PNP	12	100	500	1.7
AC127	Z-1062	$2.10	$2.00	NPN	16	500	340	1.5
AC128	Z-1064	$2.10	$2.00	PNP	16	1A	1W	1
AC187	Z-1080	$2.00	$1.90	NPN	15	1A	1W	1
AC188	Z-1082	$2.10	$2.00	PNP	15	1A	220	1
AD161	Z-1110	$3.85	$3.65	NPN	20	3A	4W	.02
AD162	Z-1112	$3.25	$3.00	PNP	20	3A	6W	.015

POWER MOSFETS

Type No.	Cat No.	Price Ea	Price 10 up	Pol/ const.	Vdss (min) V @ Id	Id (max) A
2SJ48	Z-1816	$8.95	$8.20	PCH MOS	-120 -10mA	-7
2SK134	Z-1815	$7.95	$7.75	NCH MOS	120 10mA	7

GaAsFETS

Z-1845	3SK 121	$8.70	$8.50

SILICON SMALL SIGNAL DIODES

BA100	Z-3060	.60	.55
IN914	Z-3120	.05	.04
OA202	Z-3100	.60	.55

SILICON RECTIFIER DIODES

Type No.	Cat No.	Price Ea	Price 10 up	PIV	I mA	Use
IN4002	Z-3202	.08	.07	100	1	General Purpose
IN4004	Z-3204	.10	.09	400	1	General Purpose
IN4007	Z-3207	.15	.14	1000	1	General Purpose
IN5404	Z-3222	.30	.25	400	3	General Purpose
IN5408	Z-3228	.40	.35	1000	3	General Purpose
BYX98300	Z-3242	$3.95	$3.85	300	10	Stud Mount

RECTIFIER BRIDGES

Type No.	Cat No.	Price Ea	Price 10 up	PIV	I mA	Use
WO-4	Z-3304	.75	.70	400	1.5	Mini Bridge
PO-4	Z-3306	$2.25	$2.15	400	6	General Purpose Bridge
PB40	Z-3334	$5.95	$5.85	400	25	Heavy Duty Bridge

GERMANIUM DIODES

Type No.	Cat No.	Price Ea	Price 10 up	PIV	If mA	Use
OA47	Z-3232	.80	.75	25	110	Gold Bonded General Purpose
OA95	Z-3050	.30	.25	90	50	General Purpose Point Contact

HOT CARRIER DIODES

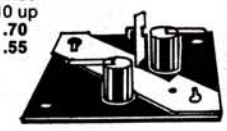
			Price Ea	Price 10 up
5082-2800	Schottky diode	Z-3230	$2.50	$2.40

VARICAP DIODES

			Price Ea	Price 10 up
BB119	Varicap similar BA102	Z-3070	.55	.50

POWER TRANSISTOR SOCKETS

Type		Cat No.	Price Ea	Price 10 up
TO-5	(suit 2N3053 etc)	P-4015	.75	.70
TO-3	(suit 2N3055 etc)	P-4023	.60	.55



DSXpress sends mail orders across town, over the country and around the world!

VOLTAGE REGULATORS

Type No.	Description	Cat No.	Price Ea	Price 10 up
LM78L05CZ	3-Terminal 5V 100mA positive regulator	Z-6108	.920	.85
LM78L12CZ	3-Terminal 12V 100mA positive regulator	Z-6110	.90	.85
LM78L15CZ	3-Terminal 15V 100mA positive regulator	Z-6111	.90	.85
LM350	Adjustable 1.2-32V 3A regulator	Z-6560	$7.95	$7.50
LM723	Adjustable 2-37V 150mA regulator	Z-6362	$1.45	$1.35
LM317/T	Adjustable 1.2-37V 1.5A, TO-220 case	Z-6541	$2.75	$2.50
LM317/K	Adjustable 1.2-37V 1.5A, TO-3 case	Z-6542	$4.95	$4.50
7805	3 terminal 5 volt 1A positive regulator	Z-6545	.95	.90
7812	3 terminal 12 volt 1A positive regulator	Z-6552	.95	.90
7815	3 terminal 15 volt 1A positive regulator	Z-6554	.95	.90
7905	3 terminal 5 volt 1A negative regulator	Z-6555	.95	.90
7912	3 terminal 12 volt 1A negative regulator	Z-6556	.95	.90
7915	3 terminal 15 volt 1A negative regulator	Z-6557	.95	.90
uA78H05	5 volt 5A positive regulator, TO-3	Z-6570	$13.75	$13.25

ZENER DIODES

Type No.	Voltage	Power	Cat No.	Price Ea	Price 10 up
IN746	3.3V	400mW	Z-3401	.25	.20
IN750	4.7V	400mW	Z-3403	.25	.20
IN751	5.1V	400mW	Z-3405	.25	.20
IN752	5.6V	400mW	Z-3407	.25	.20
IN753	6.2V	400mW	Z-3409	.25	.20
IN957	6.8V	400mW	Z-3411	.25	.20
IN961	10V	400mW	Z-3413	.25	.20
IN963	12V	400mW	Z-3415	.25	.20
IN965	15V	400mW	Z-3417	.25	.20
IN4728	3.3V	1W	Z-3515	.35	.30
IN4730	3.9V	1W	Z-3519	.35	.30
IN4732	4.7V	1W	Z-3523	.35	.30
IN4733	5.1V	1W	Z-3525	.35	.30
IN4734	5.6V	1W	Z-3527	.35	.30
IN4735	6.2V	1W	Z-3529	.35	.30
IN4736	6.8V	1W	Z-3531	.35	.30
IN4737	7.5V	1W	Z-3533	.35	.30
IN4738	8.2V	1W	Z-3535	.35	.30
IN4739	9.1V	1W	Z-3537	.35	.30
IN4740	10V	1W	Z-3539	.35	.30
IN4742	12V	1W	Z-3543	.35	.30
IN4744	15V	1W	Z-3547	.35	.30
IN4745	16V	1W	Z-3549	.35	.30
IN4746	18V	1W	Z-3551	.35	.30
IN4747	20V	1W	Z-3553	.35	.30
IN4749	24V	1W	Z-3557	.35	.30
IN4751	30V	1W	Z-3561	.35	.30
IN4752	33V	1W	Z-3563	.35	.30

LIQUID CRYSTAL DISPLAYS

				Price Ea	Price 10 up
LCD4.5	10mm	4½ digit liquid crystal	Z-4175	$15.95	$15.75

LED 7 SEGMENT DISPLAYS

Type No.	Digit Size	Construction	Cat No.	Price Ea	Price 10 up
LT313	8mm	Common Cathode	Z-4103	$2.65	$2.55
LT312	8mm	Common Anode	Z-4117	$2.40	$2.30
FND560	13mm	Common Cathode	Z-4150	$2.95	$2.85
LT547E	13mm	Common Cathode	Z-4151	$2.95	$2.85
LTS546AR	13mm	Common Anode	Z-4145	$2.50	$2.40

LIGHT EMITTING DIODES

Type No.	Colour	Size	Cat No.	Price Ea	Price 10 up	If (mA)	Vf @ 20mA	Intensity @ 20mA	Notes
ESBR5501	Red	5mm diam	Z-4075	$1.75	$1.65	50	1.7	200mCd	High Intensity
TL4211	Red	3mm diam	Z-4077	.20	.15	40	2.1	3.5mCd	Premium Quality
TL4231	Green	3mm diam	Z-4079	.20	.15	40	2.1	5.0mCd	Premium Quality
TL4251	Yellow	3mm diam	Z-4081	.30	.25	40	2.1	5.0mCd	Premium Quality
TL4291	Orange	3mm diam	Z-4083	.30	.25	40	2.0	7.0mCd	Premium Quality
TL4213	Red	5mm diam	Z-4085	.45	.40	40	2.1	4.0mCd	Premium Quality
TL4233	Green	5mm diam	Z-4087	.50	.45	40	2.1	6.0mCd	Premium Quality
TL4253	Yellow	5mm diam	Z-4089	.60	.55	40	2.0	6.0mCd	Premium Quality
TL4293	Orange	5mm diam	Z-4091	.60	.55	40	2.1	9.0mCd	Premium Quality
TL3215S	Red	2mm diam	Z-4093	.60	.55	40	2.1	1.2mCd	Rect. Prem. Qual.
TL3235S	Green	2mm diam	Z-4095	.60	.55	40	2.1	1.2mCd	Rect. Prem. Qual.
TL32555	Yellow	2mm diam	Z-4097	.60	.55	40	2.1	1.2mCd	Rect. Prem. Qual.
	Red, Flashing	5mm diam	Z-4000	$1.55	$1.45				Internal flasher circuitry

SILICON CONTROLLED RECTIFIERS

Economy Plastic Pack

Type	Vdrm	I (A) rms	Use	Cat No.	Price Ea	Price 10 up
C103B	200	0.8	Small Current	Z-4310	$1.50	$1.40
C106Y1	30	4	Sensitive Gate	Z-4315	.95	.90
C106D	400	4	Sensitive Gate	Z-4320	$1.50	$1.40
C122E*	500	8	AC Switch	Z-4332	$2.90	$2.80

*(May be supplied as BT151 or TIC126E with similar ratings).

TRIACS

Economy Plastic Pack

Type	Vdrm	If(A) rms	Use	Cat No	Price Ea.	Price 10 up
SC141D	400	6*	AC Switch	Z-4510	$1.95	$1.85
(*May be Q4006L4 or 2N6343, both 8A)						
SC151D	400	15§	AC Switch	Z-4510	$1.95	$1.85
(§May be BT139/500 - 500V, 16A)						

TRIGGERING DEVICES

Type No.	Device Type/Description	Cat No.	Price Ea	Price 10 up
ST4	Assymetrical trigger diode — suitable trigger for SC141/151	Z-4740	$1.20	$1.10
MOC3021	Opto-coupled triac driver	Z-4516	$3.25	$3.15
BR100-03	Diac	Z-4710	.70	.65

UNIJUNCTION TRANSISTORS

Type No.	Device Type/Description	Cat No.	Price Ea	Price 10 up
2N6027	Programmable unijunction (sim. D13T1)	Z-1780	.95	.90
DS2646	Unijunction (similar 2N2646)	Z-1786	$1.75	$1.49

OPTO-ELECTRONICS

Type No.	Device Type/Description	Cat No.	Price Ea	Price 10 up
FPT100	Silicon Photo Diode with lens	Z-1950	$1.60	$1.50
MEL12	Silicon Darlington phototransistor with lens	Z-1952	$1.20	$1.10
BPW50	Silicon Photo-diode	Z-1956	$3.35	$3.25
CQY89A/ LD217	Infra-red LED	Z-3235	$1.20	$1.10
DSCD01	Cadmium Sulphide (CdS) light dependent resistor, similar range ORP12	Z-4801	.95	.90
4N28	Opto Coupler — LED & photo diode in DIP package	Z-4804	$1.50	$1.40

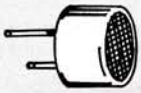
SOLAR (PHOTO-VOLTAIC) CELLS

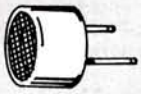
Type	Output Volts	Output Current	Cat No.	Price Ea	Price 10 up
6cm x 6cm solar panel	0.43	100mA	Z-4841	$13.25	$13.00
SPE500 solar panel	20	500mA	Z-4844	$74.50	$69.50
32CL crescent	16	180mA	Z-4855	$119.00	$109.00
16CL crescent	8	180mA	Z-4860	$ 30.00	$ 25.00

ULTRASONIC TRANSDUCERS

Highly sensitive transmit/receive pair for alarms, level detectors, TV remote control, etc. Data sheet available.

Transmitter: SCS-401 Cat L-7050 **$6.50** **(10 up $5.95)**
Receiver: SCM-401 Cat L-7052 **$6.50** **(10 up $5.90)**





74C/4000 SERIES CMOS

Type No.	Description	Cat No.	Price Ea	Price 10 up
74C00	Quad 2 input NAND gate	Z-5410	.50	.45
74C14	Hex Schmitt trigger	Z-5413	$1.50	$1.40
74C173	4 bit D-type register	Z-5376	$1.60	$1.50
74C926	4 decade counter 7 seg. output	Z-5414	$15.95	$15.50
74C946	4.5 digit counter/LCD driver	Z-6301	$24.50	$24.00
4001	Quad 2 input NOR gate	Z-5601	.75	.70
4002	Dual 4 input NOR gate	Z-5602	.50	.45
4007	Dual comp pair with inverter	Z-5607	.85	.80
4009	Hex inverter buffer/level shift	Z-5609	$1.10	$1.00
4011	Quad 2 input NAND	Z-5611	.70	.65
4012	Dual 4 input NAND	Z-5612	.70	.65
4013	Dual D edge triggered flip flop	Z-5613	.95	.90
4015	Dual 4 bit shift register	Z-5615	$1.40	$1.30
4016	Quad analog switch	Z-5616	$1.15	$1.05
4017	Decade counter/divider	Z-5617	$1.25	$1.15
4019	Quad AND/OR select gate	Z-5619	.95	.90
4020	14 bit binary counter	Z-5620	$1.45	$1.40
4022	Divide by 8 counter	Z-5622	.75	.70
4023	Triple 3 input NAND gate	Z-5623	.85	.80
4024	7 stage ripple counter	Z-5624	$1.00	.95
4025	Triple 3 input NOR gate	Z-5625	.75	.70
4026	Decade counter/7 segment divider	Z-5626	$1.75	$1.65
4027	Dual J-K flip flop	Z-5627	.95	.90
4028	BCD to decimal decoder	Z-5628	$1.20	$1.10
4029	Preset up/down binary decade counter	Z-5629	$1.50	$1.40
4030	Quad EXCLUSIVE OR gate	Z-5630	$1.10	$1.00
4040	12 stage ripple counter	Z-5640	$1.65	$1.55
4044	Quad R/S flip-flop	Z-5644	.80	.75
4046	Phase-locked-loop	Z-5646	$1.95	$1.85
4047	Monostable/Astable multivibrator	Z-5647	$1.25	$1.15
4049	Hex inverter/buffer	Z-5649	$1.00	.95
4050	Hex non inverting buffer	Z-5650	$1.00	.95
4051	8 channel analog multiplexer	Z-5651	$1.75	$1.65
4066	Quad analog switch	Z-5666	$1.15	$1.05
4069	HEX inverter	Z-5669	.80	.75
4071	Quad 2 input OR gate	Z-5671	.80	.75
4081	Quad 2 input buffered AND gate	Z-5681	.85	.80
4082	Dual 4 input AND gate	Z-5682	.80	.75
4093	Quad 2 input NAND Schmitt trigger	Z-5693	$1.20	$1.10
40194	4 bit bi-direct shift register	Z-5694	$3.50	$3.40
4511	BCD/7 segment decoder/driver/latch	Z-5730	$2.30	$2.20
4516	Presettable up/down counter	Z-5738	$1.95	$1.85
4518	Dual BCD up counter	Z-5740	$1.75	$1.65
4520	Dual binary up counter	Z-5742	$1.50	$1.40
4526	4 bit programmable down counter	Z-5744	$1.85	$1.75
4528	Dual Monostable Multivibrator	Z-5748	$1.95	$1.85

74HC SERIES

Type No.	Description	Cat No.	Price Ea	Price 10 up
74HC00	Quad 2 input NAND gate	Z-5800	.85	.75
74HC02	Quad 2 input NOR gate	Z-5802	.85	.75
74HC04	Hex inverter	Z-5804	.85	.75
74HC08	Quad 2 input AND gate	Z-5808	.85	.75
74HC11N	Triple 3 input	Z-5811	.85	.75
74HC14	Hex Schmitt-Trigger	Z-5814	$1.50	$1.40
74HC27	Dual J-K flip flop	Z-5827	.85	.80
74HC30	8 input NAND gate	Z-5830	.85	.80
74HC32	Quad 2 input OR gate	Z-5832	.85	.80
74HC74	Dual D-type edge triggered flip flop	Z-5874	.85	.80
74HC76	Dual J-K master/slave flip flop	Z-5876	$1.65	$1.55
74HC85	4 bit magnitude comparator	Z-5885	$2.75	$2.65
74HC86	Quad 2 input EXCLUSIVE OR gate	Z-5886	.95	.90
74HC123	Dual re-triggerable monostable	Z-5910	$2.90	$2.80
74HC138	Expandable ⅜ decoder	Z-5915	.85	.80
74HC139	1 of 8 decoder/multiplexer	Z-5920	.85	.80
74HC157	Quad 2 input multiplexer	Z-5925	$1.95	$1.85
74HC165	Par load 8 bit shift register	Z-5930	$1.95	$1.85
74HC174	Hex D-type flip flop	Z-5935	$1.95	$1.85
74HC221	Dual mono multivibrators (S/trigger)	Z-5940	$1.95	$1.85
74HC244	Octal buffer/line driver	Z-5950	$1.95	$1.85
74HC245	Octal bus transceiver	Z-5955	$2.50	$2.40
74HC367	Hex bus driver & 3 state o/p	Z-5960	.95	.90

Data and pinouts of IC's can be found in the data section commencing on page 121.
74C.., 74HC.. and 74LS.. series IC's are functionally similar to 74.. (TTL) series and in almost all cases are pin-for-pin replacements.

74LS SERIES

Type No.	Description	Cat No.	Price Ea	Price 10 up
74LS00	Quad 2 input NAND gate	Z-4900	.70	.65
74LS01	Quad 2 input NAND gate, o/collector	Z-4901	.70	.65
74LS02	Quad 2 input NOR gate	Z-4902	.70	.65
74LS04	Hex inverter	Z-4904	.70	.65
74LS05	Hex inverter, open collector	Z-4905	.70	.65
74LS08	Quad 2 input AND gate	Z-4908	.70	.65
74LS10	Triple 3 input NAND gate	Z-4910	.80	.75
74LS13	DL 4in NAND Schmitt trigger	Z-4913	.80	.75
74LS14	Hex Schmitt trigger	Z-4914	.80	.75
74LS20	Dual 4 input NAND gate	Z-4920	.80	.75
74LC21	Dual 4 input positive AND gate	Z-4924	.95	.90
74LS27	Triple 3 input NOR gate	Z-4927	.80	.75
74LS30	8 input NAND gate	Z-4930	.95	.90
74LS32	Quad 2 input OR gate	Z-4932	.70	.65
74LS37	Quad NAND buffer	Z-4937	.70	.65
74LS47	7 segment dec buffer	Z-4947	.70	.65
74LS54	2 way AND/OR inv	Z-4954	.70	.65
74LS73	Dual J-K flip flop	Z-4973	$1.10	$1.00
74LS74	Dual D-type edge trig. flip flop	Z-4974	.90	.85
74LS75	Quad bistable latch	Z-4975	$1.10	$1.00
74LS76	Dual J-K master/slave flip flop	Z-4976	$1.10	$1.00
74LS83	4 bit full binary array	Z-4983	$1.75	$1.65
74LS85	4 bit magnitude comparator	Z-4985	$1.20	$1.10
74LS86	Quad 2 input EXCLUSIVE-OR gate	Z-4986	$1.20	$1.00
74LS90	Decade counter	Z-4990	$1.10	$1.00
74LS95	4 bit L-R shift register	Z-4995	$1.10	$1.20
74LS109	Dual JK flip flop	Z-5109	.95	.90
74LS123	Dual monostable multivibrator	Z-5310	$1.30	$1.85
74LS132	Quad 2 input NAND Schmitt Trigger	Z-5283	$1.95	$1.30
74LS139	ONE OF EIGHT Decoder multiplexer	Z-5285	$1.40	$1.30
74LS153	Dual 4 input multiplexer	Z-5286	$1.45	$1.35
74LS157	Quad 2 input multiplexer	Z-5287	.85	$1.40
74LS165	Par Load Shift Register	Z-5288	.75	$1.25
74LS174	Hex D-type flip flop	Z-5290	$1.50	$1.25
74LS175	Quad D flip flop	Z-5291	$1.85	$1.75
74LS190	Up/down decade counter	Z-4999	$1.85	$1.75
74LS191	Up/down binary counter	Z-5191	$1.65	$1.55
74LS192	Sync dec up/down ctr	Z-5192	$1.65	$1.55
74LS193	Bin sync up/down ctr	Z-5193	$1.65	$1.55
74LS196	Decade counter	Z-5196	$1.65	$1.55
74LS221	Dual mono multivibrators (S/trigger)	Z-5296	$1.25	$1.15
74LS241	Octal buffer/line driver	Z-5293	$1.75	$1.65
74LS244	Octal buffer/line driver	Z-5294	$2.50	$2.40
74LS245	Octal bus transceiver	Z-5299	$2.15	$2.05
74LS367	Hex bus driver & 3 stage o/p	Z-5292	$1.25	$1.15
74LS373	Octal 3 stage latch	Z-5295	$2.25	$2.15
74LS374	Octal D-type flip flop	Z-5297	$2.25	$2.15

LSI & SPECIAL DIGITAL

Type No.	Description	Cat No.	Price Ea	Price 10 up
11C90	650MHz ECL pre-scaler	Z-5361	$16.95	$16.50
DS1488	RS-232C Quad line driver	Z-5370	$1.95	$1.85
ICL7106	LCD digital voltmeter	Z-6300	$14.45	$14.25
2114	1K x 4 static RAM	Z-9306	$3.95	$3.85
4116	16K x 1 dynamic RAM	Z-9310	$2.95	$2.85
4164	64K x 1 dynamic RAM	Z-9312	$2.95	$2.85
Z-80CPU	Microprocessor CPU	Z-9100	$5.95	$5.50
8087-2	Math Co-Processor	Z-9106	$699	-
80387	8MHz Math Co-Processor	Z-9105	$599	-
2732A	4K x 8 EPROM (Intel)	Z-9209	$6.95	$6.50
HM6116P-4	2K x 8 CMOS Static RAM	Z-9308	$3.95	$3.85
41256	256K x 1 DRAM 150ns	Z-9313	$10.95	$10.50

VARISTORS AND THERMISTORS

Varistors and Thermistors can be found with resistors on page 40.

TRANSMITTING VALVES

6146B, 6JS6C and 572B transmitting valves are no longer stocked in DSE stores, but are normally available as spare parts in our Service Centre. They may be ordered through any DSE store or direct from the Service Centre (see addresses on page 5.

LINEAR & GENERAL PURPOSE

Type No.	Description	Cat No.	Price Ea	Price 10 up
ADC0802LCN	8 bit A — D convertor	Z-6833	$19.95	$19.50
DAC0800LCN	8 bit D to A convertor	Z-6834	$6.35	$6.00
LM311	Voltage comparator	Z-6048	$1.25	$1.15
LM319N	High speed comparator	Z-6049	$4.95	$4.85
LM334Z	Temperature sensor	Z-6810	$2.95	$2.85
LM335H	Precision temperature sensor (TO-46)	Z-6050	$4.60	$4.10
LM335Z	Precision temperature sensor (TO-92)	Z-6051	$3.25	$3.15
LM336AZ2-5	2.5V Reference source	Z-6036	$5.95	$5.75
LM336BZ5-0	5V Reference source	Z-6037	$5.95	$5.75
LM339N	Quad comparator	Z-6039	.95	.90
LM380	Audio power amplifier	Z-6080	$2.20	$2.10
LM381	Low noise stereo preamplifier	Z-6081	$3.95	$3.85
LM382	Low noise stereo preamplifier	Z-6082	$3.45	$3.25
LM386	Audio power amplifier	Z-6086	$2.40	$2.30
LM394C	Dual diff. supermatched pair	Z-6083	$7.95	$7.85
LM567	Tone decoder	Z-6167	$2.40	$2.30
LM2917	Frequency to voltage/current source	Z-6112	$3.95	$3.85
LM3046N	NPN Transistor array	Z-6107	$2.30	$2.20
LM3909	LED flasher/oscillator	Z-6109	$1.95	$1.85
LM3914	10 LED driver	Z-6295	$5.50	$5.30
MC10116L	Triple differential amplifier	Z-5415	$2.65	$2.55
MC13020P	CQUAM stereo AM decoder	Z-5420	$5.95	$5.85
NE/DS 555	Universal timer	Z-6145	.50	.45
NE556	Dual timer	Z-6146	$1.40	$1.30
OM350	Wideband VHF/UHF amplifier	Z-6185	$11.95	$11.50
SN76604N	Servo amplifier (RC)	Z-6835	$6.90	$6.50
TA7205	General purpose CB audio IC	Z-2503	$6.80	$6.70
TBA120T	TV Sound IF Amp	Z-2510	$2.65	$2.15
TBA820M	General purpose audio amplifier	Z-2507	$4.70	$4.60
TL555CP	Timer (CMOS version 555)	Z-6144	$1.55	$1.45
UPC1615G	10-1000MHz 26dB Amp IC	Z-6008	$1.95	$1.85
XR-2206	Function generator	Z-6820	$10.95	$10.25
ZN414Z	One-chip AM radio	Z-6520	$2.95	$2.85

LINEAR OPERATIONAL AMPLIFIERS

Type No.	Description	Cat No.	Price Ea	Price 10 up
CA3080	Transconductance op amp	Z-6024	$1.70	$1.60
CA3130T	Fet input op amp	Z-6025	$2.85	$2.55
CA3140	Fet input op amp	Z-5417	$1.55	$1.45
LM301	General purpose op-amp	Z-6040	.95	.90
LM308N	General purpose op-amp	Z-6045	$1.95	$1.85
LM324	Quad op amp	Z-6102	$1.40	$1.30
LM3900	Quad 'Norton' op amp	Z-6100	$1.25	$1.15
LM1308ON	Programmable power op amp	Z-6106	$2.75	$2.65
LM1360ON	Dual transconductance amplifier	Z-6113	$2.90	$2.80
LM311N	Voltage comparator	Z-6048	$1.25	$1.15
LM1458N	Dual Op Amp	Z-6048	$1.15	$1.05
NE5534P	Low noise op amp	Z-6090	$4.35	$4.25
TL071CP	JFET op amp	Z-6030	$1.20	$1.10
TL072CP	Dual JFET op amp	Z-6032	$1.65	$1.55
TL074CP	Quad JFET op amp	Z-6034	$4.15	$4.00
TLC251	Prog. low power (CMOS) op amp	Z-6021	$4.95	$4.85
uA709	General purpose op amp	Z-6352		
uA741	General purpose op amp	Z-6382	.75	.70
uA4136	Quad op amp	Z-6105	$1.95	$1.85

Looking for that elusive spare part...?

If it's not listed on these pages, that component you need (especially for repair and service work) may well be obtained from our service centre.

Over 15,000 lines are available "off the shelf"!

For example, components, boards and hardware for Yaesu equipment — even models now out of stock in the stores.

Components used in National Panasonic equipment (we're authorised National Panasonic repairers).

Many computer components for PC's and compatibles — even complete sub-assemblies such as hard disks and controllers, etc, etc.

Spare parts can be ordered direct from the Sydney Service Centre (by phone or in person), or through your local DSE store. If ordering through a store, it's worth a phone call to the DSE Sydney Service Centre first — just to check.

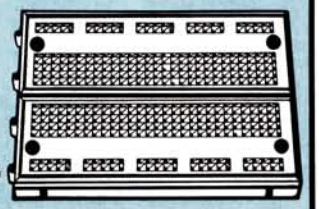
For orders or enquiries, call the Service Centre direct line:

Sydney (02) 888 3077.

Prototype Breadboards

Now designing projects is so simple — with these prototype assembly boards. No more bird's nests. No more shorts. No soldering! Just plug the components and connection leads into the board. And if one board isn't enough, they can easily be paralleled up!

Mini Project Board

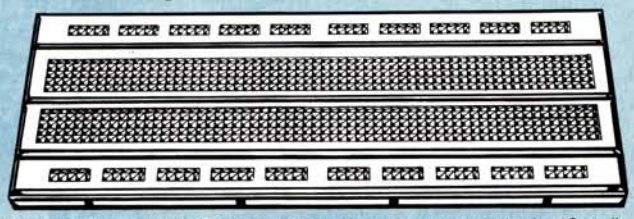


80 x 60 x 8mm board with 58 groups of 5 connected terminal points. Grid is laid out in alpha-numeric format for simple "track" identification, and the board is supplied with a pad of overlays so you can mark out circuitry for later use or for transferring to pcb/matrix board. Cat P-4614

Shipping weight: 375g
Carton size: 230 x 180 x 25mm

$11.55

Giant Project Board

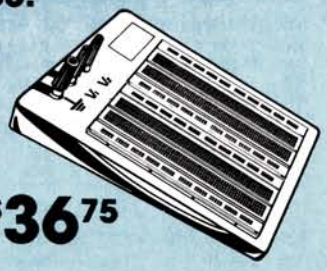


Similar to above, but this one has a whopping 128 groups of terminal points. Overall board size 178 x 67 x 8mm, also has 8 bus lines of 25 connected terminals. Dependable corrosion-free terminals for long life and circuit reliability. Cat P-4615

Shipping weight: 115g
Carton size: 180 x 70 x 20mm

$18.45

Project Boards PLUS!

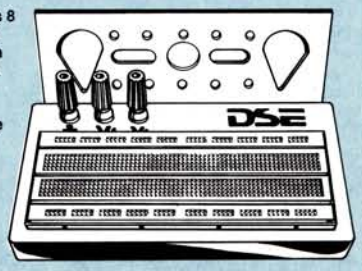


A complete mini work bench! This one has 256 groups of 5 connected terminal points plus 16 bus lines of 25 connected terminals. But that's not all: the 130 x 170mm board is housed in a plastic "work bench" complete with three terminals (for power connection, input/output, etc). Overall size is 150 x 225 x 20mm. **BONUS:** Work pad included for circuit working. Cat P-4616

Shipping weight: 375g
Carton size: 230 x 180 x 25mm

$36.75

And one with a panel!



128 groups of five terminal points plus 8 bus lines of 25 points in a protoboard measuring 173 x 65 x 8mm. Housed in a plastic work bench measuring 115 x 190 x 15mm, complete with provision for a front panel with holes for pots, switches, even TO-3 transistors! Three terminals are also included for connection. Cat P-4617

$20.95

Shipping weight: 245g
Carton size: 200 x 125 x 25mm

But how do you connect to 'em?

Prototype Boards are designed to accept standard component leads — resistors, capacitors, etc — so ordinary pigtails are fine for small connecting leads. Any bigger... and you'll need the breadboard connector pack! Around twenty lengths of insulated copper wire, with ends designed for easy breadboard insertion. Various lengths and various colours for identification. Also included are two leads with alligator clips and two leads with IC connector clips (red and black in each case). Cat W-4015

Shipping weight: 30g
Pack size: 120 x 110mm bag.

$15.95

Resistors

Single Rotary Pots $1.40 ea (10 up $1.30 ea)

METRIC LINEAR

500	R-6802	50k	R-6809
1k	R-6803	100k	R-6810
5k	R-6805	500k	R-6812
10k	R-6806	1M	R-6813
20k	R-6807	2M	R-6814

METRIC LOG

10k	R-6820
50k	R-6823
100k	R-6824

IMPERIAL LINEAR

500	R-1801	50k	R-1809
1k	R-1803	100k	R-1810
5k	R-1805	500k	R-1812
10k	R-1806	1M	R-1813
20k	R-1807	2M	R-1814

IMPERIAL LOG

10k	R-1820
50k	R-1823
100k	R-1824

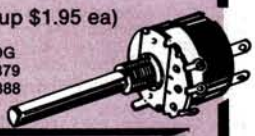
Single Rotary Switch Pots $2.40 ea (10 up $1.95 ea)

METRIC LOG

10k	R-6879
1M	R-6888

IMPERIAL LOG

10k	R-1879
1M	R-1888



Dual Rotary Pots $2.95 ea (10 up $2.75 ea)

METRIC LINEAR

10k	R-6834
20k	R-6836
100k	R-6840

METRIC LOG

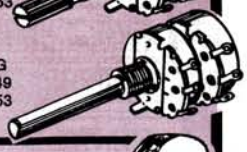
10k	R-6849
50k	R-6853

IMPERIAL LINEAR

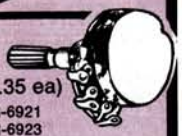
10k	R-1834	100k	R-1840
20k	R-1836		

IMPERIAL LOG

10k	R-1849
50k	R-1853



Wire Wound Pots



Rated at 3 watts
$4.50 ea (10 up $4.15 ea)

5	R-6901	100	R-6909
10	R-6903	200	R-6911
25	R-6905	500	R-6913
50	R-6907		

Rated at 5 watts
$6.95 ea (10 up $6.35 ea)

1k	R-6915	5k	R-6921
2k	R-6917	7.5k	R-6923
3k	R-6919	10k	R-6925

Mini Vertical Trimpots 50¢ ea (10 up 45¢ ea)

100	R-1929	2k	R-1937	50k	R-1945	1M	R-1953
200	R-1931	5k	R-1939	100k	R-1947	2M2	R-1954
500	R-1933	10k	R-1941	200k	R-1949		
1k	R-1935	20k	R-1943	500k	R-1951		

Lge Vertical Trimpots 50¢ ea (10 up 45¢)

100	R-1956	2k	R-1960	50k	R-1964	1M	R-1968
200	R-1957	5k	R-1961	100k	R-1965	2M2	R-1969
500	R-1958	10k	R-1962	200k	R-1966		
1k	R-1959	20k	R-1963	500k	R-1967		

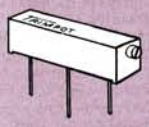
Horizontal Trimpots 50¢ ea (10 up 45¢)

100	R-1760	2K	R-1767	50k	R-1775	1M	R-1783
200	R-1761	5k	R-1769	100k	R-1777	2M2	R-1784
500	R-1763	10k	R-1771	200k	R-1779		
1k	R-1765	20k	R-1773	270k	R-1781		

10 Turn Trimpots $2.60 ea (10 up 2.40)

A multi-turn pot as used in a huge variety of test gear, precision equipment, etc. Very well made. 10 turns from end to end.

1k	R-1900
10k	R-1901
20k	R-1902
50k	R-1903
100k	R-1910



Replacement pots for transistor radios, etc

Miniature Rotary $1.20 ea (10 up 1.08)

As used in larger radios, cassettes, etc. With 25mm long fluted shaft and on/off switch. Grab some for the junk box! Also ideal for general use, res. 5K.

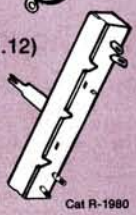
Joystick Pot
$5.65 ea (10 up 5.00)

Assembly complete with 2 x 100K linear pots with paddle movement allowed in all directions. Great for radio control, TV & computer games, music synthesisers, X/Y analogue display, etc.

Cat R-1974

50k Slider Pot
$1.25 ea (10 up 1.12)

As used in Playmaster Graphic Equaliser. Quality 50k linear pot, 73mm length, 45m overall travel. Special knobs are available to suit (see knobs page).



Cat R-1980

Varistors

V8ZA1 (5V) Cat R-1800
$3.25 (10 up $2.95)

V250LA20A (250V) Cat R-1802
$3.60 (10 up $3.25)

Thermistors

RDE050A (50V 0.5A) Cat R-1798
$4.95 ea (10 up $4.50)

RDE115A (50V 1.15A) Cat R-1799
$4.95 ea (10 up $4.45)

Using your 'easy find' resistor table...
Simply follow the 'value' column down on either side until you find the particular value you require, and then run across the column headed by the type of resister (e.g. metal film, 1W carbon film, etc.). That's the catalogue number of your resistor!

VALUE IN OHMS	¼W Metal Film 7¢ each 100 or more 4¢ each	¼W Carbon Film 5¢ each 100 or more 2.5¢ each	½W Carbon Film 6¢ each 100 or more 3¢ each	1W Carbon Film 13¢ each 100 or more 10¢ each	5W Wire Wound 55¢ each 10 or more 40¢ each	VALUE IN OHMS
0.1					R-1600	0.1
0.47					R-1601	0.47
1.0		R-1002	R-1202	R-1402	R-1602	1.0
1.2		R-1004	R-1204	R-1404	R-1604	1.2
1.5		R-1006	R-1206	R-1406	R-1606	1.5
1.8		R-1008	R-1208	R-1408		1.8
2.2		R-1010	R-1210	R-1410	R-1610	2.2
2.7		R-1012	R-1212	R-1412		2.7
3.3		R-1014	R-1214	R-1414	R-1614	3.3
3.9		R-1016	R-1216	R-1416		3.9
4.7		R-1018	R-1218	R-1418	R-1618	4.7
5.6		R-1020	R-1220	R-1420	R-1620	5.6
6.8		R-1022	R-1222	R-1422	R-1622	6.8
8.2		R-1024	R-1224	R-1424	R-1624	8.2
10	R-0526	R-1026	R-1226	R-1426	R-1626	10
12	R-0528	R-1028	R-1228	R-1428	R-1628	12
15	R-0530	R-1030	R-1230	R-1430	R-1630	15
18	R-0532	R-1032	R-1232	R-1432	R-1632	18
22	R-0534	R-1034	R-1234	R-1434	R-1634	22
27	R-0536	R-1036	R-1236	R-1436	R-1636	27
33	R-0538	R-1038	R-1238	R-1438	R-1638	33
39	R-0540	R-1040	R-1240	R-1440	R-1640	39
47	R-0542	R-1042	R-1242	R-1442	R-1642	47
56	R-0544	R-1044	R-1244	R-1444	R-1644	56
68	R-0546	R-1046	R-1246	R-1446	R-1646	68
82	R-0548	R-1048	R-1248	R-1448	R-1648	82
100	R-0550	R-1050	R-1250	R-1450	R-1650	100
120	R-0552	R-1052	R-1252	R-1452	R-1652	120
150	R-0554	R-1054	R-1254	R-1454	R-1654	150
180	R-0556	R-1056	R-1256	R-1456	R-1656	180
220	R-0558	R-1058	R-1258	R-1458	R-1658	220
270	R-0560	R-1060	R-1260	R-1460	R-1660	270
330	R-0562	R-1062	R-1262	R-1462	R-1662	330
390	R-0564	R-1064	R-1264	R-1464	R-1664	390
470	R-0566	R-1066	R-1266	R-1466	R-1666	470
560	R-0568	R-1068	R-1268	R-1468	R-1668	560
680	R-0570	R-1070	R-1270	R-1470	R-1670	680
820	R-0572	R-1072	R-1272	R-1472	R-1672	820
1k	R-0574	R-1074	R-1274	R-1474	R-1674	1k
1.2k	R-0576	R-1076	R-1276	R-1476	R-1676	1.2k
1.5k	R-0578	R-1078	R-1278	R-1478	R-1678	1.5k
1.8k	R-0580	R-1080	R-1280	R-1480	R-1680	1.8k
2.2k	R-0582	R-1082	R-1282	R-1482	R-1682	2.2k
2.7k	R-0584	R-1084	R-1284	R-1484	R-1684	2.7k
3.3k	R-0586	R-1086	R-1286	R-1486	R-1686	3.3k
3.9k	R-0588	R-1088	R-1288	R-1488	R-1688	3.9k
4.7k	R-0590	R-1090	R-1290	R-1490	R-1689	4.7k
5.6k	R-0592	R-1092	R-1292	R-1492		5.6k
6.8k	R-0594	R-1094	R-1294	R-1494		6.8k
8.2k	R-0596	R-1096	R-1296	R-1496	R-1708	8.2k
10k	R-0598	R-1098	R-1298	R-1498		10k
12k	R-0600	R-1100	R-1300	R-1500		12k
15k	R-0602	R-1102	R-1302	R-1502		15k
18k	R-0604	R-1104	R-1304	R-1504		18k
22k	R-0606	R-1106	R-1306	R-1506		22k
27k	R-0608	R-1108	R-1308	R-1508		27k
33k	R-0612	R-1112	R-1312	R-1512		33k
39k	R-0614	R-1114	R-1314	R-1514		39k
47k	R-0616	R-1116	R-1316	R-1516		47k
56k	R-0618	R-1118	R-1318	R-1518		56k
68k	R-0620	R-1120	R-1320	R-1520		68k
82k	R-0622	R-1122	R-1322	R-1522		82k
100k	R-0624	R-1124	R-1324	R-1524		100k
120k	R-0626	R-1126	R-1326	R-1526		120k
150k	R-0628	R-1128	R-1328	R-1528		150k
180k	R-0630	R-1130	R-1330	R-1530		180k
220k	R-0632	R-1132	R-1332	R-1532		220k
270k	R-0634	R-1134	R-1334	R-1534		270k
330k	R-0636	R-1136	R-1336	R-1536		330k
390k	R-0638	R-1138	R-1338	R-1538		390k
470k	R-0640	R-1140	R-1340	R-1540		470k
560k	R-0642	R-1142	R-1342	R-1542		560k
680k	R-0644	R-1144	R-1344	R-1544		680k
820k	R-0646	R-1146	R-1346	R-1546		820k
1M	R-0648	R-1148	R-1348	R-1548		1M
1.2M		R-1150	R-1350	R-1550		1.2M
1.5M		R-1152	R-1352	R-1552		1.5M
1.8M		R-1154	R-1354	R-1554		1.8M
2.2M		R-1156	R-1356	R-1556		2.2M
2.7M		R-1158	R-1358	R-1558		2.7M
3.3M		R-1160	R-1360	R-1560		3.3M
3.9M		R-1162	R-1362	R-1562		3.9M
4.7M		R-1164	R-1364	R-1564		4.7M
5.6M		R-1166	R-1366	R-1566		5.6M
6.8M		R-1168	R-1368	R-1568		6.8M
8.2M		R-1170	R-1370	R-1570		8.2M
10M		R-1172	R-1372	R-1572		10M

PLEASE NOTE: The 100 up price shown for all the resistors is for 100 of the same type and value. Resistors can NOT be mixed to obtain a 100-up price. Refer to our bulk packs for mixed value resistors at huge savings!

Buy now, pay later: credit terms available to approved purchasers

Capacitors

PREFERRED VALUES:

Most capacitors are supplied in 'preferred values'; however, some — particularly electrolytics — are not. (For example, 640uF where you might expect 560 or 680 uF). If you have a circuit specifying a particular value electrolytic and the one you're supplied with is not the exact value, it is normally quite safe to use it. Electrolytics usually have a very wide tolerance anyway, so if you get stuck you'll probably find a value in either direction will work just as well.

POLYESTER

Often called 'greencaps' because they're very often green in colour. Polyester capacitors are the most widely used of all types, in a huge variety of circuit applications. These polyester types are all rated at 100V or more. See data section for marking codes used.

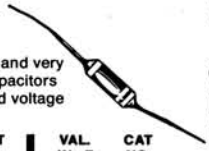
VALUE IN uF	CAT NO.	PRICE 1-9	PRICE 10 up	VALUE IN uF	CAT NO.	PRICE 1-9	PRICE 10 up
0.001	R-2010	.25	.20	0.039	R-2075	.25	.20
0.0012	R-2012	.25	.20	0.047	R-2080	.28	.25
0.0015	R-2015	.25	.20				
0.0018	R-2018	.25	.20	0.056	R-2085	.28	.25
0.0022	R-2020	.25	.20	0.068	R-2090	.28	.25
0.0027	R-2027	.25	.20	0.082	R-2095	.28	.25
0.0033	R-2025	.25	.20	0.1	R-2100	.35	.30
0.0039	R-2030	.25	.20	0.12	R-2102	.35	.30
				0.15	R-2105	.35	.30
0.0047	R-2035	.25	.20	0.18	R-2107	.35	.30
0.0056	R-2040	.25	.20				
0.0068	R-2045	.25	.20	0.22	R-2110	.35	.30
0.0082	R-2050	.25	.20	0.27	R-2115	.45	.40
0.01	R-2055	.25	.20	0.33	R-2120	.45	.40
0.012	R-2057	.25	.20	0.39	R-2125	.45	.40
				0.47	R-2130	.65	.60
0.015	R-2060	.25	.20				
0.018	R-2062	.25	.20	1.0	R-2135	$1.40	$1.30
0.023	R-2065	.25	.20	2.0	R-2140	$1.90	$1.80
0.027	R-2067	.25	.20	3.3	R-2145	$2.95	$2.75
0.033	R-2070	.25	.20				

HIGH VOLTAGE POLYESTER

Similar to above range, but offering a very high voltage rating: 630 volts! Ideal replacements for most capacitors used in valve circuits.

VALUE IN uF	CAT NO.	PRICE 1-9	PRICE 10 up	VALUE IN uF	CAT NO.	PRICE 1-9	PRICE 10 up
0.01	R-2160	.40	.35	0.1	R-2170	.95	.90
0.022	R-2162	.40	.35	0.22	R-2172	$1.15	$1.05
0.033	R-2164	.55	.50	0.33	R-2174	$1.30	$1.20
0.047	R-2166	.60	.55	0.47	R-2176	$1.60	$1.50

POLYSTYRENE



With a low temperature coefficient and very high voltage rating, polystyrene capacitors are ideal for use where stability and voltage rating is important.

VAL. IN uF	CAT NO.	VAL. IN uF	CAT NO.	VAL. IN uF	CAT NO.
33pF	R-2807	120pF	R-2821	470pF	R-2835
39pF	R-2809	150pF	R-2823	560pF	R-2837
47pF	R-2811	180pF	R-2825	680pF	R-2839
56pF	R-2813	220pF	R-2827	820pF	R-2841
68pF	R-2815	270pF	R-2829	1000pF	R-2843
82pF	R-2817	330pF	R-2831		
100pF	R-2819	390pF	R-2833		

All polystyrene above one price: 1-9 50¢ 10 up 45¢

High Tolerance Polystyrene
0.1uF 1% 63 volt R-2780
1-9 90¢ 10 up 80¢

HIGH VOLTAGE POLYCARBONATE

Specifically intended for mains and other suppression applications, these capacitors are rated at 250 volts AC continuous.

VALUE	VOLTAGE	CAT NO.	PRICE 1-9	PRICE 10 up
0.001uF	250V AC	R-2740	.95	.90
0.01uF	250V AC	R-2730	.95	.90
0.047uF	250V AC	R-2725	.95	.90
0.1uF	240V AC	R-2720	$1.65	$1.55

VARIABLE TUNING GANGS

60pF to 160pF miniature solid dielectric tuning capacitor suitable for replacement in many transistor radios. Ideal for new projects too.

Cat R-2970 **1-9 $2.50 ea 10 up $2.40 ea**

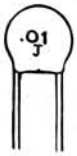
10 to 50pF tuning gang, air spaced, as used in ranges of "Howes" Amateur Radio Kits (Cat K-6326, 7, 8). Cat R-2980
1-9 $6.95 10 up $6.50

TAG TANTALUMS

Resin dipped electrolytics which use a tantalum dielectric, giving a very low leakage but a high capacitance for the size of the package. See data section for marking codes.

VAL. IN uF	VOLT-AGE	CAT NO.	$ 1-9	$ 10 up	VAL. IN uF	VOLT-AGE	CAT NO.	$ 1-9	$ 10 up
0.1	35	R-4700	.70	.65	4.7	35	R-4740	.95	.90
0.22	35	R-4705	.70	.65	6.8	35	R-4745	.95	.90
0.33	35	R-4710	.70	.65	10	25	R-4750	.95	.90
0.47	35	R-4715	.70	.65	22	16	R-4760	.95	.90
1	35	R-4720	.70	.65	33	10	R-4765	.95	.90
2.2	35	R-4730	.70	.65	47	6.3	R-4770	.95	.90
3.3	35	R-4735	.70	.65	100	3	R-4775	.95	.90

CERAMICS



Use ceramics when low inductance is important; for example, in many RF circuits. They offer a huge range of values and are all rated at 50 volts or higher.

VAL. IN uF	CAT NO.	VAL. IN uF	CAT NO.	VAL. IN uF	CAT NO.
1pF	R-2215	27pF	R-2245	470pF	R-2299
1.5pF	R-2217	33pF	R-2247	560pF	R-2301
2.2pF	R-2219	39pF	R-2249	680pF	R-2303
2.7pF	R-2221	47pF	R-2251	820pF	R-2305
3.3pF	R-2223	56pF	R-2253	0.001uF	R-2307
3.9pF	R-2225	68pF	R-2257	0.0022uF	R-2309
4.7pF	R-2227	82pF	R-2259	0.0033uF	R-2311
5.6pF	R-2229	100pF	R-2285	0.0047uF	R-2313
6.8pF	R-2231	120pF	R-2287	0.0056uF	R-2315
8.2pF	R-2233	150pF	R-2289	0.0068uF	R-2317
10pF	R-2235	180pF	R-2291	0.0082uF	R-2319
12pF	R-2237	220pF	R-2293	0.01uF	R-2321
15pF	R-2239	270pF	R-2295	0.022uF	R-2323
18pF	R-2241	330pF	R-2296	0.033uF	R-2325
22pF	R-2243	390pF	R-2297	0.047uF	R-2327

All one price 10 or more
1-9 17¢ ea. 15¢ ea.

SPECIAL CERAMICS 60V rating

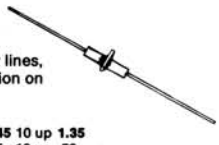
Special large capacitance ceramics for special applications.

0.1uF	R-2360	1-9	**.30**	10 up	**.25**
0.22uF	R-2370	1-9	**.45**	10 up	**.40**

High voltage ceramic (rated at 3kV) for mains suppression, etc.

0.01uF	R-2400	1-9	**1.75**	10 up	**1.65**

CERAMIC FEEDTHROUGHS



Ideal for bypassing DC supply lines, RF amplifiers, noise suppression on motors, etc.

0.001uF	500V	R-2850	1-9	**1.45**	10 up	**1.35**
0.001uF	50V	R-2851	1-9	**.55**	10 up	**.50**

HIGH DISCHARGE (STROBE) CAPACITOR

Used in circuits such as photographic strobes or flashes where heavy discharge currents occur. Rated at 250 volts AC with discharge resistor built in.

R-2855	6.5uF	250V AC	**4.95 each**	**4.45 10 up**

TRIMMER CAPACITORS

RANGE	CAT NO.	PRICE EACH	10 UP
9.8-60pF	R-2930	**1.10**	**1.00**
4.2-20pF	R-2935	**$1.10**	**1.00**

QUANTITY BUYERS

Manufacturers... service shops and laboratories... re-sellers... buy in quantity and $ave! As well as the 10-up and 100-up prices shown on these pages, all our components are available in bulk quantities to large volume users. For 1,000-up, 10,000-up and higher quantities call DSE Wholesale on Sydney (02) 888 3200.

ELECTROLYTICS

Electrolytics come in a range of different shapes and sizes but (with the exception of the bipolar type below) they have one thing in common: they are polarised and must be connected into circuit correctly. As you will note, very large capacitances are possible with electrolytic types.

AXIAL (RT) TYPE

VAL. IN uF	VOLT-AGE	CAT NO.	PRICE 1-9	PRICE 10 up
0.47	63	R-4010	.35	.30
1.0	350	R-4015	.35	.30
2.2	63	R-4020	.35	.30
3.3	25	R-4025	.35	.30
4.7	25	R-4030	.35	.30
4.7	63	R-4035	.35	.30
10	16	R-4055	.35	.30
10	25	R-4060	.35	.30
10	63	R-4065	.35	.30
22	25	R-4086	.35	.30
22	63	R-4091	.35	.30
33	16	R-4095	.35	.30
47	16	R-4105	.35	.30
47	25	R-4110	.35	.30
47	63	R-4115	.35	.30
47	350	R-4120	$1.50	$1.40
100	10	R-4125	.35	.30
100	25	R-4130	.35	.30
100	63	R-4135	.35	.30
100	350	R-4140	$2.95	$2.75
220	16	R-4145	.35	.30
220	25	R-4150	.35	.30
220	63	R-4155	.95	.90
470	16	R-4160	.70	.65
470	63	R-4165	$1.65	$1.55
1000	16	R-4175	.80	.75
1000	25	R-4180	$1.10	$1.00
1000	35	R-4185	$1.65	$1.55
1000	63	R-4190	$2.50	$2.40
2200	16	R-4196	$1.25	$1.15
2200	25	R-4201	$1.65	$1.55
2200	35	R-4206	$2.45	$2.25
2200	50	R-4211	$2.75	$2.50
4700	35	R-4215	$4.35	$4.15

SINGLE ENDED (RB) TYPE (PCB MOUNTING)

0.47	50	R-4290	.25	.20
1.0	50	R-4295	.25	.20
2.2	25	R-4300	.25	.20
4.7	25	R-4310	.25	.20
10	25	R-4315	.25	.20
22	25	R-4319	.25	.20
33	10	R-4330	.25	.20
33	35	R-4340	.25	.20
47	25	R-4350	.25	.20
100	16	R-4360	.25	.20
100	25	R-4370	.25	.20
220	16	R-4380	.75	.70
220	25	R-4390	.75	.70
330	10	R-4397	.75	.70
330	25	R-4400	.75	.70
470	10	R-4407	.75	.70
470	16	R-4410	.75	.70
470	50	R-4420	.75	.70
680	16	R-4435	.75	.70
1000	16	R-4440	.75	.70
1000	25	R-4450	.75	.70
1000	50	R-4457	$1.95	$1.85
2200	25	R-4460	$1.25	$1.15
6800	10	R-4470	$1.25	$1.15
10000	10	R-4480	$1.25	$1.15
10000	40	R-4483	$9.95	$8.95

METAL CAN TYPE

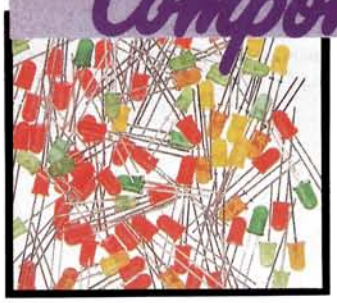
VAL IN uF	VOLT-AGE	CAT NO.	PRICE 1-9	PRICE 10 up
5600	40	R-4570	$7.35	$6.95
8000	75	R-4590	$9.40	$8.75
10000	40	R-4595	$9.75	$8.95

BI-POLAR ELECTROLYTICS

These electrolytics are specially made not to be polarised. They are designed for use where the voltage polarity across them changes — for example, in speaker cross-overs. They have a 40 volt rating.

VAL IN uF	CAT NO.	PRICE 1-9	PRICE 10 up
2.2	R-4600	.45	.40
3.3	R-4605	.45	.40
4.7	R-4610	.45	.40
6.8	R-4620	.45	.40
10	R-4630	.45	.40
22	R-4640	.45	.40

Component Packs



Premium LED Pack

100 premium LEDs

Not the usual mix, these: they're top quality — matched for brightness & colour. Standard 5mm size: at this price you can afford to use premium LEDs on all your projects! You get: sixty red, twenty green, ten yellow and ten orange. That's a hundred premium LEDs for a song!
Cat Z-3015

$26.35

Shipping weight: 41g
Shipping size: 190 x 100 x 10mm

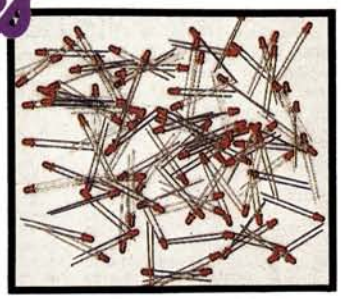
Premium 3mm red LED pack

100 pieces

Highly suited for labs, manufacturers, etc and even hobbyists building lotsa-leds projects! Premium quality (matched brightness) 3mm size LEDs, 100 in pack. Cat Z-4076

$19.95

Shipping weight: 26g
Shipping size: 20 x 100 x 10mm



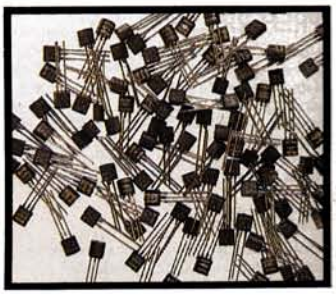
Premium 5mm red LED pack

100 pieces

Similar to pack at left, again a highly useful pack for anyone using LEDs in volume. Savings are over 40% on single LED prices so if you need anything over 60 LEDs, the rest are effectively FREE when you buy this pack! 100 5mm premium quality red LEDs.
Cat Z-4084

$19.95

Shipping weight: 42g
Shipping size: 210 x 100 x 10mm



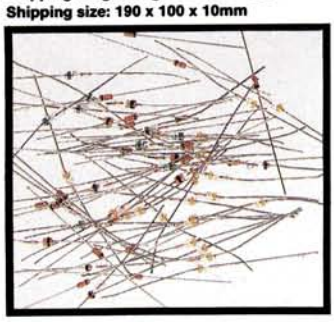
Signal Transistor Pack

100 pieces

A pack of the most-used transistors the hobbyist, technician or design lab can have. Comprises twenty each of DS547, DS548, DS549 NPN types (equiv. BC107, 8 & 9), fifteen DS557 & DS558 (equiv. BC557, 8) and ten BC159 PNP types. Incredibly handy to have around: just in case! And look at the saving ...
Cat Z-3000

$13.15

Shipping weight: 30g
Shipping size: 160 x 100 x 10mm



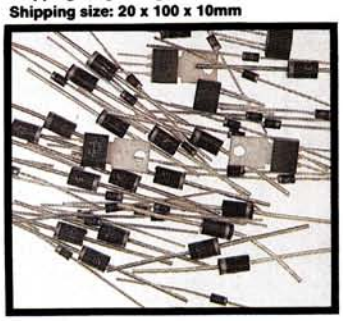
Signal Diode Pack

100 pieces

Another beauty! A selection of the types of diodes we all use for projects — from crystal sets to computers! Contains five OA90, fifteen OA91/DSOA91, five OA95, five OA47 germanium diodes, and a huge seventy (yes, seventy!) 1N914 silicon diodes. Keep a pack in the junk box! Cat Z-3005

$13.15

Shipping size: 40g
Shipping weight: 130 x 100 x 30mm



Power Diode Pack

57 diodes & SCR's

Just the type of pack you've been waiting for: over fifty of the most used power diodes and SCR's (not useless, rubbish types!). You get: 10 each 1N4002, 1N4004, 1N4007 1A diodes, 10 each 1N5404 & 1N5408 3A diodes, two W04 1.5A 400V bridges, three C106Y1 and two C122E general purpose SCR's. Cat Z-3010.

$16.45

Shipping weight: 54g
Shipping size: 210 x 100 x 20mm

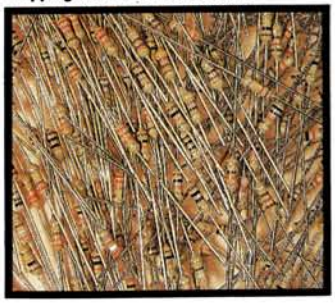
E-24 Metal Film 1% Resistor Pack

300 pieces

Now for those who need really precision resistors, we've added this superb pack of low noise 1% metal films to our range:in the full E-24 series. Consists of 300 pieces covering 60 values between 11 ohms and 910 kohms; computer chosen for maximum usefulness. Cat R-7020

$19.75

Shipping weight: 64g
Shipping size: 130 x 100 x 30mm



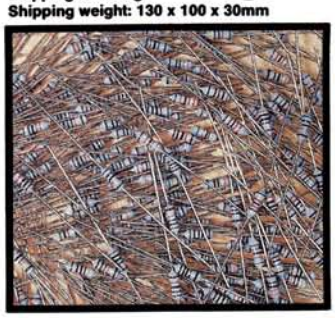
Resistor Pack

300 computer selected ¼W types

Ideal for the professional and the hobbyist, 60 values specially chosen by the computer. Quality 5% types — huge savings on normal prices: less than 3¢ each!
Cat R-7010

$8.75

Shipping size: 70g
Shipping weight: 130 x 100 x 30mm



Metal Film Resistor Pack

300 precision 1% ¼W E-12 metal film resistors

Our 1% metal film resistors are even better value when bought by the pack! Now there's no excuse not to use metal films in all your projects — especially at this price! Cat R-7015

$17.55

Shipping weight: 66g
Shipping size: 135 x 100 x 20mm

Greencap Pack

60 Greencaps

No weird, rubbish values in this pack. Every greencap is as used in a number of circuits. 100 volt rating, too — and the values are selected from .001uF to 0.22uF (60 capacitors in all). Cat R-7040

$12.60

Shipping weight: 35g
Shipping size: 100 x 170 x 25mm

Electrolytic Pack

55 Electrolytics

55 top quality single ended (pcb mounting) electrolytics. You're sure to find one here you need. Range from 2.2uF to 470uF, voltages from 10 to 25. Cat R-7030

$8.75

Shipping weight: 54g
Shipping size: 130 x 100 x 30mm

Ceramic Pack

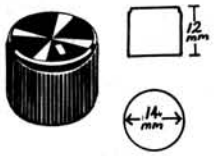
Over 60 Ceramics

Quality ceramic capacitors in a specially selected pack. Voltages from 50V — some as high as 630VW. Save a fortune over one-off prices. Cat R-7050

$6.25

Shipping weight: 24g
Shipping size: 170 x 100 x 15mm

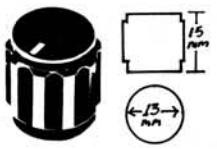
Metric Range



Tiny elegant knob, finished in black with silver shoulder and pointer, 14mm diam, 12mm deep. Cat H-3820

95¢

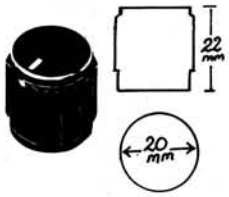
10 or more 85¢



Black body with deep flutes down side for positive grip. White radius pointer. Size 13mm diam, 15mm deep. Cat H-3826

$1.35

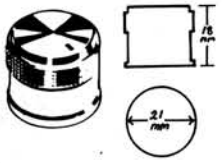
10 or more $1.20



Black finished knob with silver shoulder and white marker, 20mm diam, 22mm deep. Cat H-3830

$1.50

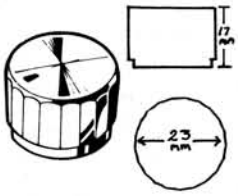
10 or more $1.35



Aluminium knob with fine serrations down top third of body. With pointer, size 21mm diam, 18mm deep. Cat H-3834

$1.40

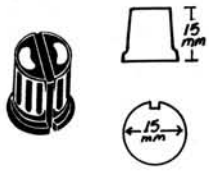
10 or more $1.25



Incredibly popular knob for quality project use. Satin finish aluminium with knurled body. 23mm diam, 17mm deep. Cat H-3843

$1.35

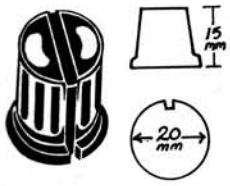
10 or more $1.20



The smallest of four matching project knobs. Integral pointer across top, size just 11mm body, 15mm skirt and 15mm overall. Cat H-3850

85¢

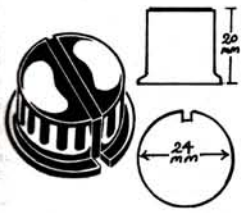
10 or more 80¢



A little larger: ideal for test instruments, etc. 15mm wide with 20mm skirt, knob height 15mm. Cat H-3855

$1.15

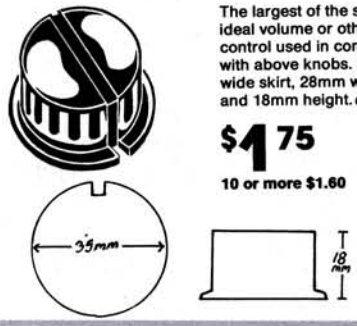
10 or more $1.05



Larger again: great as a tone control or switch knob on amplifiers, etc. 20mm wide with 24mm skirt, 20mm deep. Cat H-3860

$1.30

10 or more $1.15



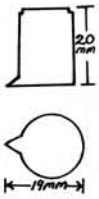
The largest of the series: ideal volume or other main control used in conjunction with above knobs. 35mm wide skirt, 28mm wide body and 18mm height. Cat H-3865

$1.75

10 or more $1.60

Coloured Plastic Knobs

What a colourful idea! Now your projects can really look the part with these snazzy coloured knobs. Use them to colour code sections (great on multi-channel mixers, lighting consoles, etc). 16mm diam, standard metric (fluted shaft) fitting. Inserts can be changed to suit the occasion! Choice of four with-it colours: **Red** Cat H-3800, **Orange** Cat H-3802, **Blue** Cat H-3804 and **Green** Cat H-3806



All $1.85 ea

10 or more $1.65

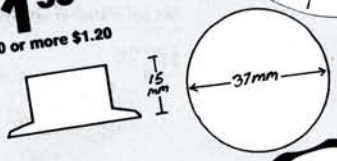
Imperial Range

These are mainly intended to be used as replacements on existing equipment. They fit standard ¼" shafts, and are tightened by a grub screw

A superb instrument knob with wide skirt, calibrated 1-10 in black on silver. Size 37mm diam, 15mm deep. Cat H-3770

$1.35

10 or more $1.20



Small knob with fluted sides, small skirt with dot pointer. Size 19mm diam, 14mm deep. Cat H-3762

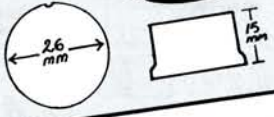
$1.15

10 or more $1.05

Another very popular knob. The pointer runs right through from the top to the edge of the skirt. Silver insert. Size 26mm diam, 15mm deep. Cat H-3772

95¢

10 or more 85¢



A very popular knob for all instruments, etc. Very positive grip and wide skirt with white pointer engraved on top. Size 31mm diam, 15mm deep. Cat H-3766

95¢

10 or more 85¢

Vernier Drive

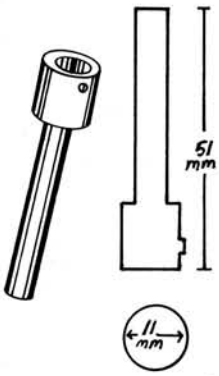
Precision vernier drive designed for front panel mounting. 50mm diam. Cat H-3900

$11.55

10 or more $10.35

Imperial Extension Shaft

Machined brass shaft for imperial pot shafts, tuning gangs, etc. Cat H-3950



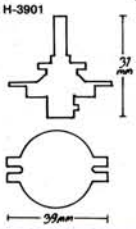
$2.60

10 or more $2.35

Quality Reduction Drives

For new projects or as a replacement this is a superb precision vernier drive. With smooth, positive movement for the finest control. Suitable for panel mounting, the compact 27mm diameter makes it ideal for those tight spots. Inbuilt lugs make mounting a breeze. Cat H-3901

$8.70

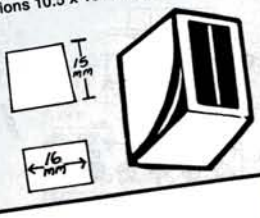


Slider Pot Knobs

Push-on knob for 8mm slider pot shafts. 'Chromed' plastic with black face and marker line. 15mm deep, with rear dimensions 10.5 x 16mm. Cat H-3780

$1.20

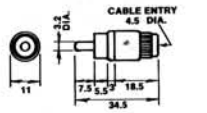
10 or more $1.05



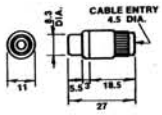
Plugs & Sockets

RCA

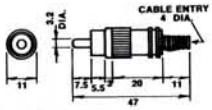
PLUGS
Red P-1420
Black P-1422
45¢ 10 up 40¢



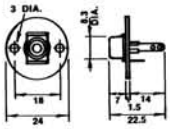
LINE SOCKET
Red P-1410
Black P-1412
45¢ 10 up 40¢



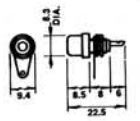
Metal:
Red P-1424
Black P-1426
$1 10 up 95¢



PANEL SOCKET
Single P-1440
$1.05 10 up 95¢



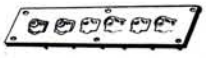
Single, Screw Mount
P-1430
70¢ 10 up 65¢

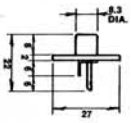


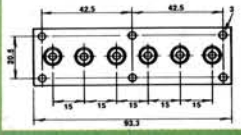
Stereo
P-1442
75¢ 10 up 70¢

4-way
P-1444
$1.25 10 up $1.15

6-way
P-1446
$2.25 10 up $2.05

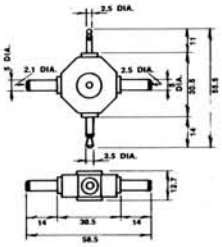






DC POWER

STAR PLUG
P-1670
2.5 & 2.1mm (as below) plus 2.5 & 3.5mm phono type all on one unit. Simply plugs in a 2.5mm plug. Reversible polarity.
$2.70 10 up $2.45



1.3mm PLUG
P-1643
60¢ 10 up 45¢

2.1mm PLUG
P-1641
50¢ 10 up 45¢

2.1mm PLUG
P-1642 Longer Shaft
50¢ 10 up 45¢

2.5mm PLUG
P-1645
50¢ 10 up 45¢

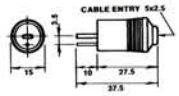
2.5mm PLUG
P-1646 Longer Shaft
50¢ 10 up 45¢

2.1mm SOCKET
Switching type
P-1661
75¢ 10 up 70¢

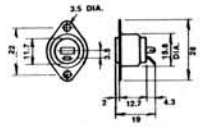
2.5mm SOCKET
Switching type
P-1665
75¢ 10 up 70¢

DIN

2 PIN LINE PLUG
P-1520
65¢ 10 up 60¢



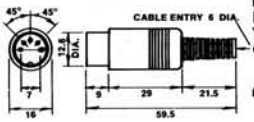
2 PIN PANEL SOCKET
P-1522
45¢ 10 up 40¢



2 PIN LINE SOCKET
Suits P-1520
P-1524
55¢ 10 up $50

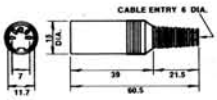
3 PIN LINE PLUG
P-1530
65¢ 10 up 60¢

5 PIN LINE PLUG
P-1550
75¢ 10 up 70¢



5 PIN PANEL SOCKET
Suits P-1550
P-1552
80¢ 10 up 75¢

5 PIN LINE SOCKET
Suits P-1550
P-1554
$1.15 10 up $1.05



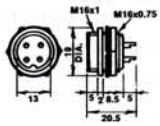
6 PIN LINE PLUG
P-1560
$1.25 10 up $1.15

6 PIN LINE SOCKET
P-1564
$1.15 10 up $1.05

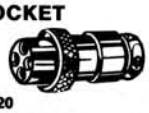
6 PIN PANEL SOCKET
P-1562
$1.05 10 up 95¢

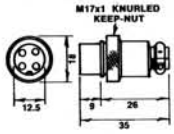
MICROPHONE

4 POLE METAL PANEL Mt. Plug
P-1824
$3.50 10 up $3.30

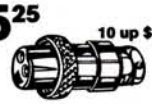


LINE SOCKET
Suit P-1834
$2.40 10 up $2.20



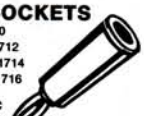


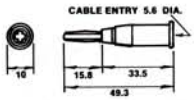
2 POLE HEAVY DUTY Metal Plug & Socket
P-1860
$5.25 10 up $4.75



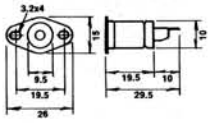
BANANA

4mm SOCKETS
Red P-1710
Black P-1712
Yellow P-1714
Green P-1716
45¢ 10 up 40¢





4mm PLUGS
Red P-1720
Black P-1722
40¢ 10 up 35¢



4mm SOCKET WITH BINDING POST
Red P-1730
Black P-1732
Yellow P-1734
Green P-1736
70¢ 10 up 65¢

CANNON

3 PIN LINE SOCKET
P-1620
$4.75 10 up $4.55

3 PIN PANEL PLUG
P-1622
$3.85 10 up $3.55

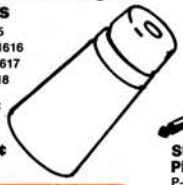
3 PIN LINE PLUG
P-1624
$4.50 10 up $4.25

3 PIN PANEL SOCKET
P-1626
$4.95 10 up $4.70

MAINS CONNECTORS
240V Approved Line Plug
P-1627
$9.90 10 up $8.90

240V Approved Socket
P-1630
$7.95 10 up $6.95

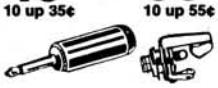
Coloured boot to fit Cannon Line Plugs & Sockets
Red P-1615
Yellow P-1616
Green P-1617
Blue P-1618
50¢ 10 up 45¢



PHONO

2.5mm MINIATURE
Plug P-1125 — **35¢** 10 up 30¢
Socket P-1220 — **50¢** 10 up 45¢

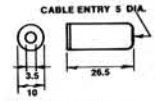
3.5mm MINIATURE
Plug
Red P-1132
Black P-1134
40¢ 10 up 35¢
Socket P-1231
60¢ 10 up 55¢



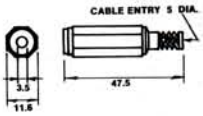
Stereo Plug P-1140 — **75¢** 10 up 70¢
Stereo Socket P-1240 — **$1.40** 10 up $1.30

3.5mm METAL PLUG
P-1136
$1.05 10 up 95¢

LINE SOCKET
Red P-1234
Black P-1236
65¢ 10 up 60¢



STEREO LINE SOCKET
P-1238
$1.50 10 up $1.40



6.5mm STANDARD

Plug P-1160 — **80¢** 10 up 75¢
Socket P-1261 — **95¢** 10 up 90¢

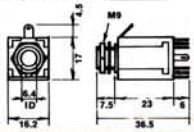
Metal Plug
P-1162
$1.40 10 up $1.30

Stereo Plug P-1166 — **$1.10** 10 up $1
Stereo Socket P-1266 — **90¢** 10 up 85¢

Metal Stereo Plug
P-1168
$1.85 10 up $1.75

LINE SOCKET
Mono: P-1264
Stereo: P-1286
90¢ 10 up 85¢

STEREO PANEL SOCKET WITH DPDT SWITCH
Ideal for headphone sockets
P-1276
$1.20 10 up $1.10



Plugs & Sockets

UHF

PL-259
Coax line plug, wide back to suit RG8-U, UR67, RG213
P-2310
$1.85 10 up $1.70

PL259
As above, but narrow back to suit RG-58U, etc.
P-2311
$1.85 10 up $1.70

PL-259 REDUCER
No soldering required, use with PL-259 to give tight fit for 50 ohm coax. Suit P-2310 (above). P-2360
40¢ 10 up 35¢

SO239 JOINER
Two sockets for use back to back with PL-259. P-2380
$2.20
$2.10

SINGLE MOUNT SOCKET
SO-239 To accept PL-259 plug. Screw type mounting chassis. Cat P-2342
$1.65
10 up $1.55

PANEL MOUNTING SOCKET BULKHEAD
SO-239 to suit PL-259. Screw mounting. P-2340
$1.40
10 up $1.30

T-CONNECTOR
With PL-259 plug & SO-239 sockets. P-2384
$5.25
10 up $5

RIGHT ANGLE
With SO-239 socket & PL-259 plug. Cat P-2382
$3.70
10 up $3.35

'N' CONNECTORS SILVER PLATED
Male Line Plug
P-2400
$5.95
10 up $5.50

Female Line Socket
P-2405
$7.95
10 up $7.50

BNC

BNC LINE PLUG
Suitable for RG58RU cable.
P-2210
$2.75 10 up $2.70

BNC PANEL SOCKET
Accepts P-2210.
P-2220
$2.20 10 up $2.10

ADAPTOR PLUG BNC TO UHF SO-239 SOCKET
P-2230
$3.70
10 up $3.35

ADAPTOR SOCKET BNC TO UHF PL-259 PLUG
P-2240
$3.70 10 up $3.35

ADAPTOR PLUG F RCA SOCKET
P-2100
$3.45 10 up $3.25

CAR CIG LIGHTER PLUG

Extremely handy for operating recorders or any other 12 volt appliances in your car.
P-1675
$1 10 up 95¢

As above, but complete lead ready made, terminated in 4-way star connector.
P-1680
$3.45 10 up $3.10

CO-AXIAL TV

PLASTIC LINE PLUG
P-2021
$1
10 up 95¢

PLASTIC LINE SOCKET
P-2031
$1.10

METAL LINE PLUG
P-2020
$1.50
10 up $1.45

METAL LINE SOCKET
P-2030
$1.60 10 up $1.50

IN LINE JOINER
Suits P-2020, P-2021
P-2240
$3.70 10 up $1.35

PANEL SOCKET
Suits P-2020, P-2021
P-2040
$1.10
10 up $1.00

TV WALL PLATE
with 75 ohm socket
Plastic wall plate with built in 75 ohm TV connector. Can also be used as a 75 ohm splitter. Cat P-2042
$4.60
10 up $4.50

300 OHM TV

WALL SOCKET & PLUG
Suit ribbon cable. Comes with plug.
P-2080
$2.40
10 up $2.20

PLUG ONLY
For P-2080
$1.20 10 up $1.10

MULTI PIN PLUGS AND SOCKETS

9 PIN PLUG & SOCKET ASSEMBLY
Complete with covers.
P-1910
$2.65 10 up $2.45

8 PIN CHASSIS SOCKET
P-3025
$1.60 1.50

8 PIN LINE PLUG WITH COVER
P-3010
$1.60 10 up $1.10

4 PIN LINE PLUG
P-3120
65¢ 10 up 70¢

5 PIN LINE PLUG
P-3125
$1.05 10 up 95¢

5 PIN CHASSIS
Socket for P-3120
P-3135
$1.40 10 up $1.30

2 PIN LINE PLUG
P-3110
65¢ 10 up 60¢

2 PIN CHASSIS SOCKET
For P-3110
P-3115
65¢ 10 up 60¢

COVER FOR P-3120 & P-3125
P-3140
60¢ 10 up 55¢

CAR RADIO ANTENNA

ANTENNA PLUG
P-2000
60¢ 10 up 55¢

CHASSIS MOUNT SOCKET
P-2004
55¢ 10 up 50

CRYSTAL SOCKET

TYPE K SMALL
P-4720
95¢ 10 up 85¢

SOLDER LUGS

ASSORTED SOLDER LUG PACK
Single & double ended types, 3.4mm hole. Pack of 50.
P-2240
$3.70
10 packs or more @3.35

QUICK CONNECT

FEMALE SPADE
P-5012
$1.25
10 packs or more $1.15

MALE SPADE
For P-5012.
Pack of 10.
P-5016
$1.25
10 packs of more $1.15

COVER FOR P-5012 & P-5016
Pack of 10.
P-5022
$1.25
10 packs or more $1.15

DOUBLE ADAPTOR
Pack of 10.
P-5026
$1.65
10 packs or more 1.55

ROUND LUG 10mm HOLE
Pack of 12
P-5032
$1.05
10 packs of more 95¢

MINI SPADE TERMINALS
(Female)
Pack of 10
P-5036
$1.25 10 up $1.05

BULLET TERMINAL
Male — pack of 10
P-5006
$1.55
10 packs of more $1.45

PLASTIC COVER TO SUIT ABOVE
Pack of 10
P-5007
85¢
10 packs or more 80¢

BULLET TERMINAL
Female — pack of 10.
P-5008
$1.45
10 packs or more $1.35

PLASTIC COVER TO SUIT ABOVE
Pack of 10
P-5009
95¢
10 packs or more 90¢

Plugs & Sockets

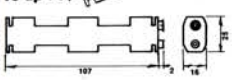
BATTERY HOLDER & SNAPS

BATTERY SNAP
Suit 216.
P-6216

25¢ 10 up 22¢

4 x "AA" SIZE HOLDER — LONG FLAT
P-6114

75¢ 10 up 70¢



4 x "AA" SIZE HOLDER — SQUARE
P-6124

70¢ 10 up 65¢

6 x "AA" SIZE HOLDER — RECTANGULAR
P-6116

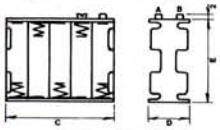
95¢ 10 up 90¢

8 x "AA" SIZE HOLDER — RECTANGULAR
P-6128

$1.20 10 up $1.10

BATTERY HOLDER 10 x "AA"
P-6130

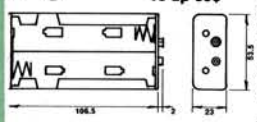
$1.45 10 up $1.30



CONNECTORS	C	D	E
10-CELL	A	76	29.5	58.5
8-CELL	A	60	28.5	58.5
6-CELL	B	47	30	57.5

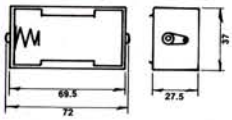
4 x "C" SIZE HOLDER — FLAT
P-6104

90¢ 10 up 85¢



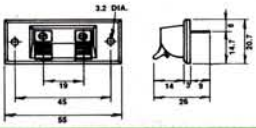
1 x "D" SIZE HOLDER — SQUARE
P-6101

70¢



BATTERY HOLDER 9V CHASSIS/PCB MOUNT
P-6220

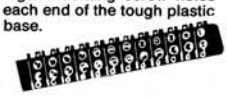
$3.75 10 up $3.50



TERMINALS ETC

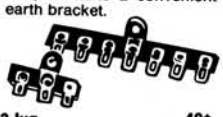
MAINS TERMINAL BLOCKS
With nylon, mains terminal strip, two screws per terminal, a twelve way, or by cutting the strip, any number of terminals. 240V AC rating.
H-6700 **$1.75** 10 up $1.60

BARRIER STRIPS
Each terminal has two screws and two pre-tinned solder lugs. Mounting screw holes each end of the tough plastic base.

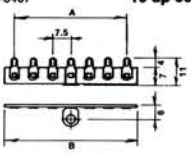


4-way	H-6704	$3.65 / 10 up $2.40
8-way	H-6708	$4.75 / 10 up $3.95
12-way	H-6712	$7.35 / 10 up $5.65

TAG STRIPS
Pre-tinned solder lugs firmly attached to phenolic board. The centre lug extends to a foot, to make a convenient earth bracket.

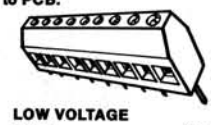


3-lug	H-6403	40¢ / 10 up 35¢
5-lug	H-6405	45¢ / 10 up 40¢
6-lug	H-6626	85¢ / 10 up 78¢
7-lug	H-6407	60¢ / 10 up 55¢



	A	B
7-LUG	45	53
5-LUG	30	37.3
3-LUG	15	22.3

Designed for PCB mounting — provide ideal method of connecting external lead to PCB.



LOW VOLTAGE

3-way	H-6745	$1.75 / 10 up $1.60
6-way	H-6748	$2.45 / 10 up $2.20
8-way	H-6750	$2.90 / 10 up $2.65

MAINS VOLTAGE RATED

3-way	H-6760	$2.30 / 10 up $2.10

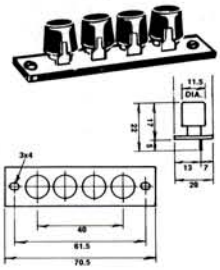
STEREO SPEAKER CONNECTOR
Positive locking connection. 4 terminals.
H-6770

55¢ 10 up 78¢

CONNECTOR TERMINALS
Red and black plastic covered spring loaded terminals for instant connect and disconnect with solder lug on underside of phenolic mounting board. Ideal speaker connectors for amplifiers!

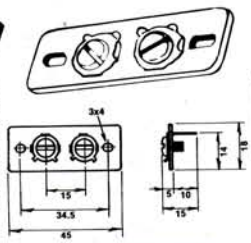
4-way P-1765
$1.85 10 up $1.70

2-way P-1764
75¢ 10 up 70¢



SCREW TERMINALS
Popular strips with screw terminals on one side of the phenolic strip with a mounting hole at each end.

2-way	H-6622	90¢ / 10 up 85¢
4-way	H-6624	$1.35 / 10 up $1.20



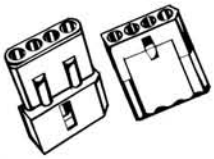
PLUGS & SOCKETS

3 PIN PLUG & SOCKET
P-5103

$1.95 10 up $1.80

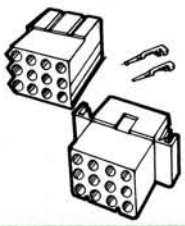
4 PIN PLUG & SOCKET
P-5105

$2.25 10 up $2.00



12 PIN PLUG & SOCKET
P-5112

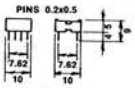
$3.45 10 up $3.00



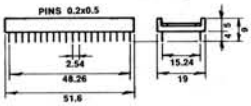
IC SOCKETS & PLUGS

Why endanger valuable IC's by soldering them directly into circuit? Take the safe approach: use an IC socket! It makes service and repair of your project much, much easier too. There's an IC socket to suit almost all common ICs.

8 Pin Mini DIL Socket	P-4080	20¢ / 10 up 15¢



14 Pin DIL Socket	P-4140	25¢ / 10 up 20¢
14 Pin DIL Plug	P-4142	$2.10 / 10 up $1.95
16 Pin DIL Socket	P-4160	25¢ / 10 up 20¢
16 Pin DIL Plug	P-4162	$2.40 / 10 up $2.30
18 Pin DIL Socket	P-4180	30¢ / 10 up 25¢
20 Pin DIL Socket	P-4200	45¢ / 10 up 40¢
22 Pin DIL Socket	P-4220	50¢ / 10 up 45¢
24 Pin DIL Socket	P-4240	50¢ / 10 up 45¢
28 Pin DIL Socket	P-4245	50¢ / 10 up 45¢
40 Pin DIL Socket	P-4250	60¢ / 10 up 55¢



14 w/wrap DIL Socket P-4260 **$1.80** 10 up $1.70

24 Pin w/wrap DIL Socket P-4268 **$3.50** 10 up $3.25

20 Pin w/wrap DIL Socket P-4264 **$2.95** 10 up $2.75

MOLEX IC SOCKET STRIP
Make your own IC Sockets! Fantastic idea! Never run out of IC sockets — because you make your own. Just cut the required number of pins from the strip and solder them in. After you insert the IC, you break off the carrier strip (also helps protect the IC from static damage). 100 pins strip.
P-4504

$2.40 10 or more $2.30

COMPUTER CONNECTORS

PRINTER PLUG
57-30360 type, suits most printers. With cover. P-2680

$12.50 10 up $12.25

PRINTER SOCKET
57-403360 Centronics type socket. P-2681

$17.30 10 up $15.55

RGB MONITOR PLUG 8 PIN
P-2682

$10.35 10 up $9.35

36 WAY IDC FLAT RIBBON CENTRONICS TYPE PLUG
P-2678

$12.50 10 up $12.25

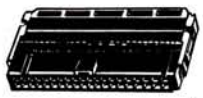
25 PIN IDC FLAT RIBBON
Plug P-2693 — Socket P-2694

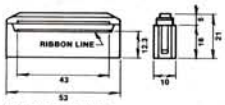
$10.45 10 up $9.95

IDC CONNECTORS

34-way	P-2760	$9.50 / 10 up $9.35
40-way	P-2762	$11.95 / 10 up $11.35
50-way	P-2764	$14.25 / 10 up $13.50

IDC FLAT RIBBON SOCKETS





34-way	P-2750	$5.50 / 10 up $5.10
40-way	P-2752	$6.50 / 10 up $6.10
50-way	P-2754	$6.95 / 10 up $6.50

'D' TYPE CONNECTORS
PLUGS (Solder Tail)

25 pin	P-2690	$3.95 / 10 up $3.50
15 pin	P-2687	$3.25 / 10 up $2.95
9 pin	P-2684	$2.75 / 10 up $2.50

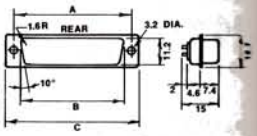
SOCKETS (Solder Tail)

25 pin	P-2691	$5.25 / 10 up $4.95
15 pin	P-2688	$3.95 / 10 up $3.50
9 pin	P-2685	$3.60 / 10 up $3.45

BACKSHELLS
Suit P-2690 & P-2691
P-2692
$2.20 10 up $1.95

Suit P-2687 & P-2688
P-2689
$2.15 10 up $1.95

Suit P-2684 & P-2685
P-2686



	A	B	C
25-PIN	47	41.5	53.3
9-PIN	24.8	19.5	31

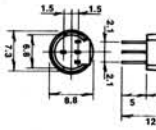
25 PIN R/ANGLE PCB MOUNT
P-2695

$6.95 10 up $6.50

TRANSISTOR SOCKETS

TO-5 suit 2N3053 etc
P-4015

90¢ 10 up 85¢



TO-3 suit 2N3055 etc
P-4023

70¢ 10 up 65¢

Switches

TOGGLE SWITCHES

Ultra Ultra Mini Vertical P/Button

SPST momentary action push button designed for vertical PCB mounting, also suitable for through-panel mount. S-1101

120V AC, 0.5A
Body Size: 5mm diam, 13mm long
Mounting Hole: 5mm

$1.95

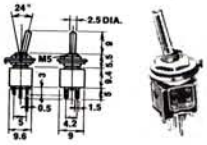
10 up $1.85

ULTRA MINIATURE DPDT

The contact rating to size ratio is very high with this miniature toggle switch. Ideal for models, miniature portable instruments, or any use where a high quality miniature switch is required. Cat S-1245

DPDT

125V AC 3A (240V AC 1.5A)
Chrome toggle with colour insert
Body size: 8mm x 9.3mm
Clearance: 13.5mm
Complete with 2 nuts and 2 washers.
Gold plated connnecting tips.



$3.50

10 or more $3.25 each

Ultramini Push Button

PCB Mounting (vertical) push button switch with changeover contacts. Intended for reset button, etc. **Size 9mm x 5mm x 22m (inc legs & p/button). 120V AC 1A.** Cat S-1255

$2.75

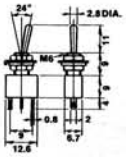
10 up $2.65

MINIATURE TYPES

Most popular range — specially imported — excellent quality

Due to the quality of these switches they can be used in many applications.

All feature:
125V AC 5A (240V AC 2A)
Chrome toggle with colour insert.
Complete with two nuts and two washers.
Mounting hole size — 6mm.



SPDT

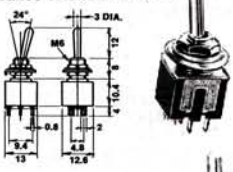
Body 8mm x 13mm, clearance 17mm. Cat S-1173
125V AC 5A (240V AC 2A)

$1.65

10 or more $1.50 each

DPDT

Body 13mm x 13mm, clearance 17.5mm. Cat S-1174
125V AC 5A (240C AC 2A)



$1.80

10 or more $1.75 each

DPDT CENTRE OFF

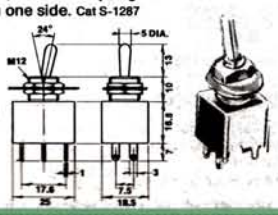
Body 12mm x 12mm, clearance 20.5mm. Cat S-1286
125V AC 5A (240V AC 2A)

$2.50

10 or more $2.40 each

DPDT CENTRE OFF MOMENTARY ONE SIDE

As above S-1286 switch, but with a spring-return momentary position on one side. Cat S-1287
125V AC 5A



$3.50

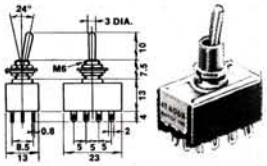
10 or more $3.25 each

4PDT

Body 13mm x 21.5mm, clearance 20.5mm. Cat S-1175

$5.95

10 or more $5.75 each



HEAVY DUTY DPDT

Amazing contact capacity!

Although this switch is miniature in size, it offers an enormous contact to size ratio. Ideal for use where high power levels are involved and small size is of prime importance. Cat S-1168

Features:
125V AC 10A
Chrome toggle with plastic cap.
Body size: 12mm x 12.5mm
Clearance: 20.5mm
Mounting hole: 6mm

$3.75

10 or more $3.50 each

RIGHT ANGLE PCB MOUNTING

With extended right angle lugs for soldering direct to pcb. No mounting nuts required (there's no thread anyway!) Same style actuator as mini toggle switches above. Cat S- 1180
Chrome toggle and body
Mounting hole 6mm

$2.50

10 or more $2.25 each

ECONOMY STANDARD TOGGLE SWITCH

STANDARD SPST

A well designed switch in a bakelite case. It has a chrome toggle and is complete with two nuts and chrome ON/OFF indicator plate. Ideal for electric projects and automotive use. Cat S-1215

Features:
125V AC 3A
Body Size: 14mm x 26mm
Clearance: 20.5mm
Mounting Hole: 12mm

$1.65

10 or more $1.50 each

STANDARD DPDT

Same general features as the above switch. Cat S-1216
Features:
125V AC 3A (240V AC 1.5V)
Body Size: 18mm x 29.5mm
Clearance: 23mm
Mounting hole: 12mm

$2.25

10 or more $2.10

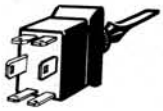
Momentary Action Centre Off

Low voltage, high current switch for vehicle applications: ideal for electric car antennas, etc. Has two sprung positions giving DPDT action with centre off. Large actuating paddle. Cat S-1065

12V DC, 20A
Body size 25 x 32 x 30 (not including paddle), standard Mounting hole 12mm 30mm paddle.

$2.95

10 up $2.85



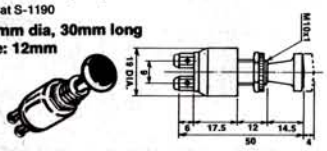
Dashboard Switch

Pull on, push off single pole switch as found in many older vehicles (lights, wipers, etc.). Also ideal for truck use as it is rated at 24V (10A). Positive screw-in connections. Cat S-1190

Body Size: 20mm dia, 30mm long
Mounting Hole: 12mm

$3.95

10 up $3.75



PCB Mounting Push Button

Similar to above, but with right angle legs for pcb mounting through panel. **120V AC 1A.** Cat S-1253

$2.95

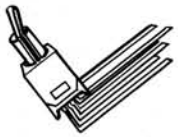
10 up $2.75

PCB Mounting Centre Off

Right angle legs for pcb mounting, double pole changeover type with centre off position. **Size: Body 9 x 7 x 20 (inc toggle), legs 13mm extension. 120V AC 1A.** Cat S-1251

$3.25

10 up $2.95



PCB Mounting Changeover

As above, but without the centre off position. Also rated higher: **1A 250V AC, 3A 120V AC.** Cat S-1249

$2.95

10 up $2.75

Waterproof Toggle

Fully sealed SPST toggle for low voltage applications. Toggle has rubber boot to ensure complete waterproofing. Ideal for marine use & other hostile environments. Cat S-1195

12V DC, 10A rating.
Body size: 30 x 18 x 35mm
Mounting Hole: 12mm

$7.65

10 up $6.95

STANDARD DPDT CENTRE OFF

Rugged bakelite case, chrome toggle, red and black ON/OFF/ON indicator plate and heavy duty solder lug terminals. This switch features heavy duty contact rating. Makes ideal motor reversing switch, eg electric aerial on cars. Cat S-1217

Features:
125V AC 10A
Body Size: 20mm x 35mm
Clearance: 26mm
Mounting Hole: 12mm

$2.50

10 or more $2.25 each

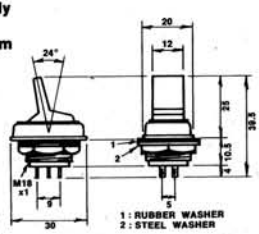
PIANO KEY DPDT

Ideal for audio and electronic projects. Superbly engineered and has a white toggle. Cat S-1393

Features:
Mounting Hole: 18mm
Clearance: approximately 15mm
Body Size: 20mm x 30mm

$3.50

10 or more $3.25 each



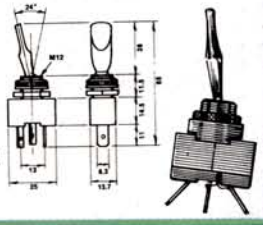
ILLUMINATED SPST (12V)

Intended for automotive use. The soft glow from the toggle is not distractive, but means the switch can quickly be located. 12V lamp operates from supply being switched. Cat S-1214

Features:
12V DC, 16A contacts
9MM mounting hole
Body Size: 28 x 15mm

$3.95

10 or more $3.75 each



Switches

PUSH BUTTON SWITCHES

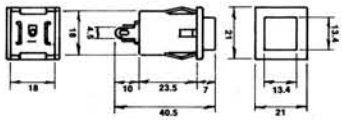
ILLUMINATED SP MOMENTARY

This switch features a beautiful red 11mm square actuating button in an all black plastic case. Makes an excellent mains switch for projects. Cat S-1078

Features:
125V AC 1A
Body size: 18mm x 18mm
Clearance: 34mm
Hole cut out size: 18.5mm x 18.5mm
Indicator lamp: 6.3V

$2.95

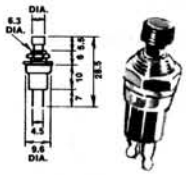
10 or more $2.75 each



MINIATURE SP — NORMALLY OPEN

These are all plastic body with red illuminated pushbotton bezel. Cat S-1102

Features:
125V AC 1A
Body Size: 28.5mm x 10mm
Clearance: 15mm
Hole Size: 7mm



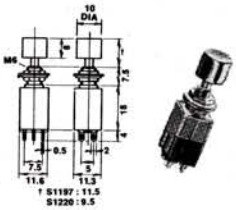
75¢

10 or more 70¢ each

SP ALTERNATE ACTION

The professional Miniature! Ideal for equipment where space is very limited. It features a positive push on/push off action. The actuating black plastic button is 10mm in diameter. Cat S-1197

Features:
125V AC3A
Body Size: 11.5mm x 11.5mm
Clearance: 22mm
Hole Size: 6mm



$3.50

10 or more $3.25 each

DPDT MOMENTARY ACTION

This is an extremely high quality push button switch featuring precise micro switch type action. The plastic actuator button is small to conserve space whereby you can stack these switches side by side etc. Ideal for computer program switch. Cat S-1220

Features:
125V AC 3A
Body Size: 13mm x 13mm
Clearance: 14.5mm
Hole Size: 6.5mm

$3.95

10 or more $3.75 each

SP ALTERNATE ACTION

This switch features a beautiful red 11mm square actuating button in an all black plastic case. Makes an excellent mains switch for projects. Cat S-1198

Features:
125V AC 3A
Body Size: 15mm square
Clearance: 28mm
Hole Size: 12mm

$1.75

10 or more $1.65 each

SP MOMENTARY ACTION

As above switch, Cat S-1198, but with momentary action push/on. Cat S-1199

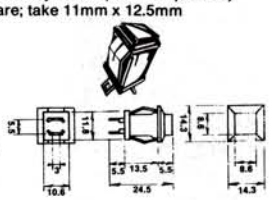
Features:
125V AC 3A
Body Size: 15mm square
Clearance: 28mm
Hole Size: 12mm

$1.75

10 or more $1.65 each

PUSH BUTTON RED/BLUE

Red or blue mini push buttons — ideal for colour coding control panels, etc. Each handles up to 0.5A at 240V AC (1A 125V) and are momentary action (on when pushed). Switch size 14mm square; take 11mm x 12.5mm mounting hole.
BLUE: Cat S-1074
RED: Cat S-1076



$1.80

10 or more $1.70 each

DOOR BELL PUSH BUTTON

The kind the Avon Ladies love! Standard white/black push button to suit most types of low voltage door bells. Two screws mount to any flat surface. Cat S-1077

$2.75

10 or more $2.50 each

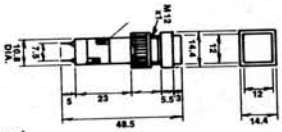
ILLUMINATED PUSH BUTTON

Lamp 12 V @ 55mA

As used in car burglar alarms, control panels, etc. Alternate action switch with inbuilt 12V globe. Square finish body, round mounting hole. Cat S-1520

125V AC 3A
Body Size: 14mm square
Mounting Hole: 12mm
Clearance: 40mm

Blue: S-1521
Green: S-1522
Yellow: S-1523



$10.95

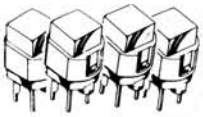
10 or more $9.95 each

PACK OF FOUR PUSH BUTTONS

Ideal for mounting on PCB's. These are momentary PUSH ON switches that have a positive click action. Ideal for alarm circuits, intercoms, custom keyboards, etc. Cat S-1200

$3.20

10 or more $3.05

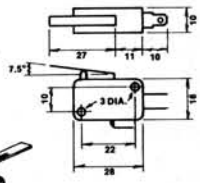


MICRO SWITCHES

MICRO SWITCHES

Micro switches are used wherever a limited switching movement is required — they require only 2 or 3mm of blade movement to actuate. Very positive switching action when triggered — ideal for use in burglar alarms, machinery guards and limit switches, tamper switches, etc. Cat S-1920

Features:
SPDT Contacts
Body Size: 10.5mm x 28mm
Quick connect terminals



$2.15

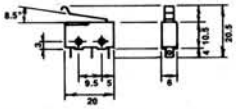
10 or more $1.95 each

MINI MICRO SWITCHES

Tiny version of micro at left: just 20 x 10 x 6mm. SPDT contacts with mini quick connect terminals (just as easily soldered to!). Hole mounting 10mm apart. Actuator arm has curved end for cam or chain follower. Ideal for high quality equipment. Cat S-1922

$1.30

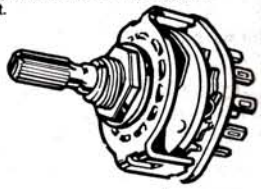
10 or more $1.15 each



ROTARY SWITCHES

DSE rotary switches are precision made to our exacting specifications. They feature easy-to-solder lugs (which are ideal for pcb mounting because of their small size), and have up to 12 positions or 6 poles on one switch plate. The switch shaft is the now standard metric (fluted) type which accepts any of our range of 6mm knobs (imperial knobs can be used with a small piece of shim brass or copper). The contacts are make before break (less clicking and popping!) and each switch comes with a matching washer and nut.

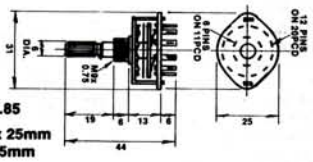
Poles	Positions	Cat No.
6	2	S-6302
4	3	S-6303
3	4	S-6304
2	5	S-6305
2	6	S-6306
1	12	S-6312



$1.95

10 or more $1.85

Body size: 30 x 25mm
Shaft length: 15mm

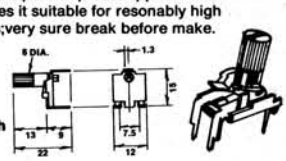


SPDT PCB MOUNT "PRESET"

Vertically mounting on pcb for preset applications. Insulated shaft makes it suitable for resonably high voltage applications;very sure break before make. Cat S-1950

15¢

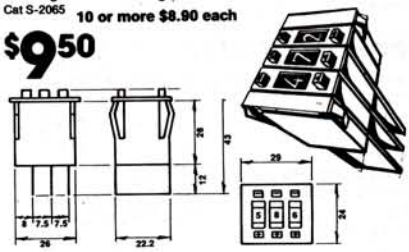
10 or more 10¢ each



3-WAY BCD PUSH BUTTON

3 ganged push button switches with BCD coded outputs: ideal for use in computer circuits, with PLL's, etc. Decimal reading of BCD setting. As used in 2m transceiver kit. Cat S-2065 **10 or more $8.90 each**

$9.50



40 CHANNEL CB SWITCH

As used in most Cybernet CB radios. binary coded output for PLL02A IC: the most commonly used PLL. Ideal replacement part. Cat S-6300

$19.95 **10 or more $16.95 each**

40 Channel Switch

As used in our transceiver kits. BCD output. Metric (fluted) shaft. Data sheet available. Cat S-2070

Body Size: 40 x 20 x 35mm
Mounting Hole: 9mm

$6.85

10 up $6.20

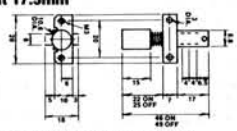
4-WAY SWITCH PACK

This switch is ideal for audio switching in kit type amplifiers or similar applications. Each individual switch section is DPDT and is mechanically interlocked so that only one press button can be on at one time. Cat S-1904

Features:
Mounting centre: 75mm
Clearance: 22mm
Push button size:
11mm centres spaced at 17.5mm

$4.95

10 or more $4.50 each



Single DPDT

Same high quality as the above switch bank, same features and functions. Just one of the above switches. Cat S-1906

10 or more $1.85 each **$1.95**

Switches

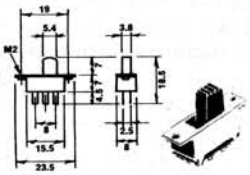
SLIDE SWITCHES

SUB MINIATURE DPDT

Countless applications — amazing low price!

Sub-miniature type suitable for many types of projects, etc. So low in price it can be used for experimental projects, without regard to cost! Actuator is in black plastic. Cat S-2010

Features:
Mounting: 19mm centre
Clearance: 12mm
Body Size: 8mm x 23mm



40¢

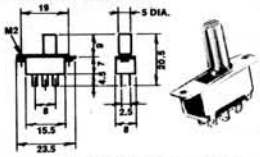
10 or more 35¢ each

SUB MINIATURE DPDT

Same as the S-2010 but features an attractive spun aluminuim actuator with black insert. Cat S-2020

55¢

10 or more 50¢ each



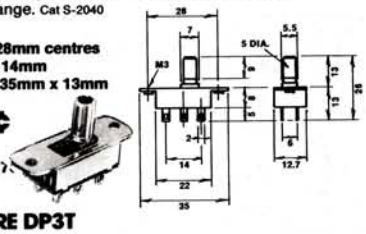
MINIATURE DPDT

This miniature switch has a spun aluminium actuator with black insert. Larger and heavier duty than the sub-miniature range. Cat S-2040

Features:
Mounting: 28mm centres
Clearance: 14mm
Body Size: 35mm x 13mm

75¢

10 or more 7

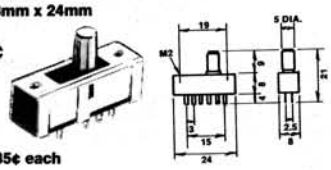


MINIATURE DP3T

A versatile switch ideally suited to audio applications and for instruments. Cat S-2030

Features:
Mounting: 19mm centre
Clearance: 13mm
Body Size: 8mm x 24mm

90¢



10 or more 85¢ each

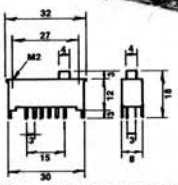
MINIATURE DP6T

A printed circuit board mounting switch with a massive six positions. Each position has a positive location to avoid problems. Cat S-2050

Features:
Mounting: 27mm centres
Clearance: 18mm
Body Size: 8mm x 33mm

95¢

10 or more 90¢ each



MINIATURE SP4T

As above, but with four positions. Ideal for input selection on printed circuit boards. Cat S-2060

Features:
Mounting: 19mm centres
Clearance: 12mm
Body Size: 8mm x 25mm

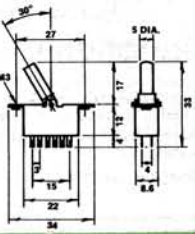
95¢

10 or more 90¢ each

4PDT TOGGLE LEVER ACTION

This switch gives the smooth action of a slide switch but is actuated by an attractive spun aluminium toggle with coloured insert. Great for amplifier changeover switches because of their small size and attractive finish. Cat S-1301

Features:
Mounting: 27mm centres
Clearance: 19mm
Body Size: 9mm x 34mm



$2.50

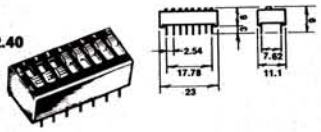
10 or more $2.40 each

8 WAY PCB DIL SWITCH

8 SPST rocker switches mounted in a DIL package. Designed for PCB mounting and may be placed in blocks or rows without wasting space. Use for pre-programming, changing circuit constants and many more uses. Cat S-1608

$2.50

10 or more $2.40

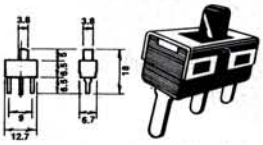


SPDT SLIDE

Designed for vertical mounting direct on pcb. Ideal for circuits which require occasional changing of operating parameters. 5mm between pins. Body 13 x 6.75mm. 6A @ 28V DC. Cat S-1015

$1.45

10 or more $1.35 each

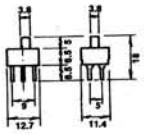


DPDT SLIDE

As above, but capable of switching two individual circuits at the same time. Also has 5mm between pins — in both directions. Has mountings at 18mm, body 13 x 11.5mm. Cat S-1010

$1.75

10 or more $1.65 each

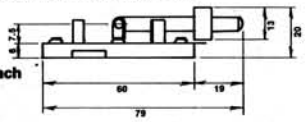


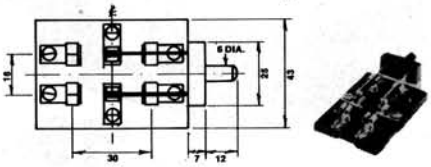
DPDT "KNIFE" SWITCH

The old "aerial & earth" switches of Yore. Used today for changeover switches on TV antennas, etc, or any general purpose (low voltage!!) switching job. Cat S-1930

$1.95

10 or more $1.85 each





ROCKER SWITCHES

ILLUMINATED DPDT

Positive action, handsome black body, bright red illuminating rocker switches, 10amp, 240V. The terminating lugs on this switch will accept standard Utilux spade clips. Mounting is push in snap lock.

Features:
240V AC 10A
Body Size: 23mm x 30.5mm
Clearance: 30mm
Hole cut out size: 22mm x 27mm

240V NEON
Cat S-1506

$3.50

10 or more $3.25 each

12V VERSION

As above, but 12V globe. Cat S-1507

$3.20

10 or more $3.05 each

ILLUMINATED SPDT

Attractive rectangular shape black switch with red illuminating rocker (240V neon). Terminal lugs accept Utilux spade quick connectors. Mounting is "snap lock". 240V neon. Cat S-1503

Features:
240V AC 10A
Body Size: 14mm x 40mm
Clearance: 29.5mm
Hole cut out size: 12.5mm x 37.5mm

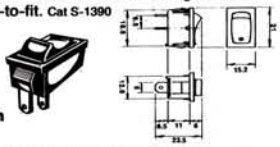
$3.95

10 or more $ 3.75 each

SPST MINI ROCKER

Intended mainly for vehicle applications — has quick connect lugs for easy connection. Takes rectangular cut-out, 29 x 13mm. Push-to-fit. Cat S-1390

12V DC, 2A



$1.55

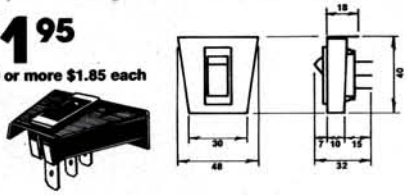
10 or more $1.40 each

SPST ILLUMINATED WITH BRACKET

Also for car use. Ideal for controlling driving lamp relays, etc: lamp inside switch lights when switch is on. (12V lamp). Complete with mounting bracket (can be removed for panel mounting in a 12 x 27mm cut-out). Cat S-1500

$1.95

10 or more $1.85 each



Dress Nuts

Pack of 5.5mm dress nuts for standard miniature toggle switches. Makes the panel look really snazzy! Cat H-1912

Weight: 10g

$1.15

Weatherproof Hoods

Again desgined for standard miniature toggle switches, these screw onto the switch to prevent moisuture ingress. Ideal for switches in marine applications. (**Note:** only protect toggle, not rear of switch). Pack of 8. Cat H-1914

Weight: 15

25¢

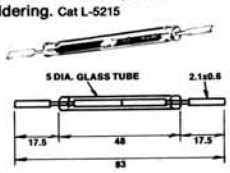
ALARM SWITCHES

LARGE BARE REED SWITCH

Bare switch measures 40 x 5mm diameter, solid connection for ease of soldering. Cat L-5215

$3.15

10 or more $2.80 each



MINI REED SWITCH

Great where space is a problem. Wire connections, great for camouflaging in wood-work, etc. 25mm long Cat S-1946

$1.20

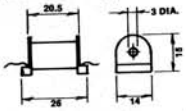
10 or more $1.10 each

ACTIVATING COIL

Matches perfectly with the mini reed switch above. 430 ohm coil operates from 6 to 15V DC, gives you perfect isolation between two circuits (just like a relay!) Cat S-1948

85¢

10 or more 80¢ each



BARE MAGNETS

Tiny (26 x 8 x 8mm) magnets which operates either reed switch from approx. 10mm away. Huge range of applications. Cat L-5214

$2.30

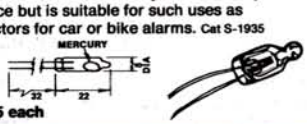
10 or more $2.05 each

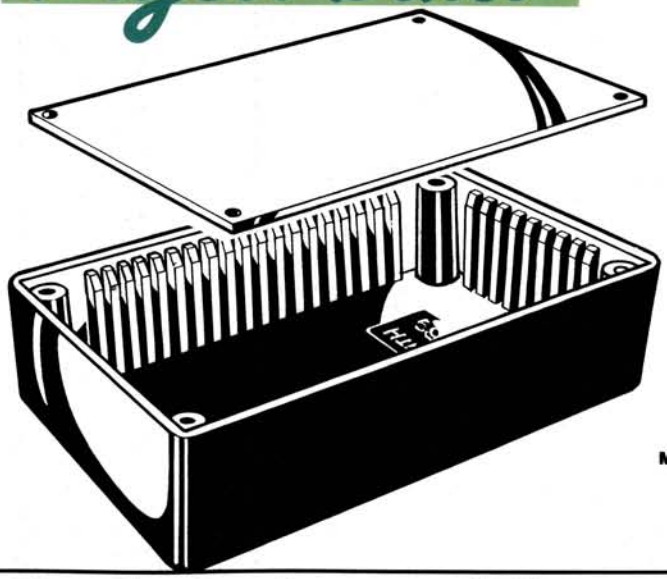
MERCURY "TILT" SWITCH SWITCH MOUNT SPDT

This is essentially a movement detecting switch. It is operated by changing the horizontal plane. A "ball" of mercury runs from one end of the elongated tube to the other as the position is changed. One end has a set of contacts that "make" with the mercury. It is basically a low current device but is suitable for such uses as movement detectors for car or bike alarms. Cat S-1935

$2.50

10 or more $2.25 each





DSE Zippy Boxes

There is only one genuine 'Zippy' box — the one with the all round deep ribbing. Don't be fooled by inferior copies — this is the one used by the major electronics magazines because of its versatility. Insist on the one and only — genuine — Zippy Box which comes complete with both aluminium and plastic lids.

More projects are built in genuine DSE 'Zippy Boxes' than any other case. And the reason is simple: they're so versatile! From the tough moulded case with its deep ribbed sides, to the close fitting lid with screws supplied — for ease of use and versatility you cannot beat a genuine Zippy box. The ribbed sides are ideal for mounting PCB's without worrying about screws — and the PCB can be mounted either lengthwise or across the box. These are the boxes used by beginners in the FunWay into Electronics projects — and thousands of other projects.

Small — UB5 (28 x 54 x 83mm) Cat H-2855
$2.30 Shipping weight: 50g (10 up $2.05)

Medium — UB3 (41 x 68 x 130mm) Cat H-2853
$3.15 Shipping weight: 109.1g (10 up $2.80)

Large — UB1 (50 x 90 x 150mm) Cat H-2851
$3.80 Shipping weight: 110g (10 up $3.45)

Giant — UB2 (60 x 113 x 196mm) Cat H-2852
$5.25 Shipping weight: 278g (10 up $4.70)

Plastic Instrument Cases

66 x 46 x 30mm

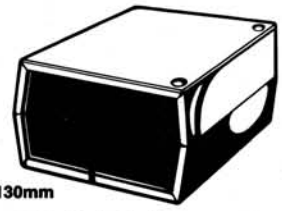
Moulded case for small projects. Complete with 'matrix' style assembly board, lid has flange mounts. Case size 66 x 46 x 30mm. Ideal for car projects! Cat H-2765

$4.60 10 up $4.20

95 x 45 x 145mm

This precision instrument case, exclusive to Dick Smith Electronics has a specially designed vent system to allow for free circulation of air. Its unique snap together design means that no screws are required. With front and back panels included this case is ideal for small projects. Size 95 x 145 x 45mm. Cat H-2503

$12.55
10 up $11.55
Weight: 100g



130 x 75 x 130mm

Heavy slotting makes this the ideal power supply case — or other heat generating projects. Includes both front and rear panels, slot system makes for easy pcb mounting. 130 x 130 x 75mm. Cat H-2516

$9.85 10 up $8.85

155 x 65 x 160mm

Similar to above case, but more suited to mounting PCB's: contains 16 slots for vertical mounting of 145mm long pcb's (up to 55mm high), also has 23 mounting points for horizontal pcb(s). Very attractive grey colour with black crinkle finish front and rear panels. Box size 155(w) x 65(h) x 160(d)mm. Cat H-2508

Shipping weight: 320g
Shipping size: 180 x 160 x 40mm

$9.45 10 up $8.55

200 x 95 x 140mm

Attractively styled black ABS case complete with handle — ideal for test gear, power supplies, etc to be moved around. Off-white front and rear panels slot into place. Case contains slots for speaker, cooling, etc. Case Size: 200(w) x 95(h) x 140(d)mm. Cat H-2506

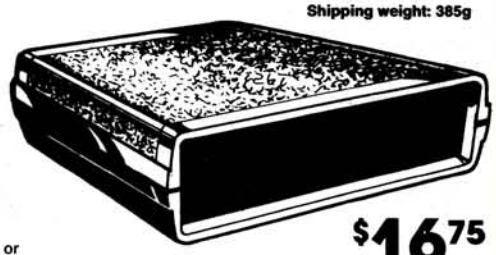
Shipping weight: 420g
Shipping size: 220 x 70 x 140mm

$15 10 up $13.50

200 x 65 x 160mm

A superb case for all 'instrument' type projects, and many more. Case splits apart for easy of working, comes complete with 4 rubber feet and assembly screws. Amazingly versatile allowing for various PCB mounting positions, front and rear panels are moulded plastic for ease of working (they can be replaced with aluminium panels if required). Size approx. 200 x 160 x 65mm. Cat H-2505

Shipping weight: 385g

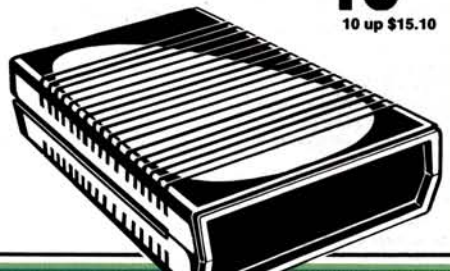


$16.75 10 up $15.25

210 x 55 x 175mm

Designed for use with out UHF Transceiver Kit (K-6300), but superb for a large range of instruments, communication equipment, projects, etc. Features removable front and rear panels, easy PCB mounting. Provision for mounting bracket, too. Size 210 x 175 x 55mm. Cat H-2520

$16.75 10 up $15.10



The Case! 214 x 110 x 165mm

$19.95 10 up $17.95

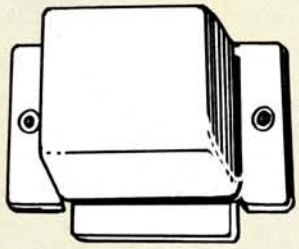
Magnificent! Everything you could want in a project case — and then some. It's huge: 265 x 80 x 215 — enough to fit those really ambitious projects. Contains pcb mounting points, a superb front panel, tilting bail, rubber feet... everything! For the most professional finish, this is THE ONE! Cat H-2510

"Pocket" Case

A tiny (57 x 36 x 17mm) case intended for pocket or keyring transmitters: infra-red, ultrasonic, UHF, etc for alarms, garage openers, etc. Moulding has provision for 12V lighter battery (VR22) (battery clips included) plus push button (also included). PCB size to 45 x 32mm, case has pocket clip on back. Cat H-2497

Shipping weight: 20g

$3.45 10 up $3.10



Junction Case

Unique design intended for use as low voltage junction point (eg in cars, for hifi, etc). Gives extra security for the junction. Includes mounting plate and cover with room for cable entry both sides. Would also take small pcb to 40 x 45mm. Cat H-2830

Shipping weight: 50g

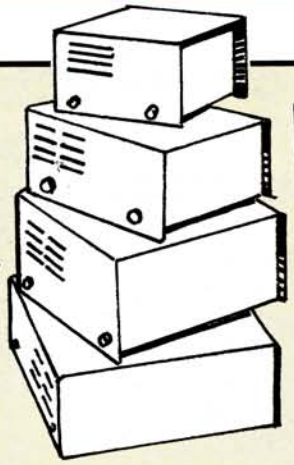
$2.35 10 up $2.05

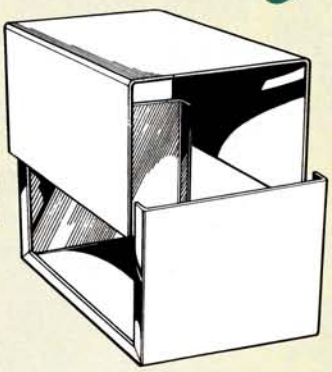
Project Boxes

Metal Cabinets

Beautifully made cabinets to suit a huge variety of projects, especially those with meters, control, etc. which need to be mounted on the front panel. They consist of an aluminium base, slots, and self-tapping screws complete with cup washers. All-in-all a case you'd be proud to put you prestige projects into. They come in an attractive two-tone finish.

		Ea	10 up	Wt.
102 x 56 x 83mm	Cat H-2741	$4.95	$4.45	180g
150 x 61 x 103mm	Cat H-2742	$6.25	$5.50	280g
150 x 76 x 134mm	Cat H-2743	$7.65	$6.55	340g
185 x 70 x 160mm	Cat H-2744	$8.90	$7.55	440g



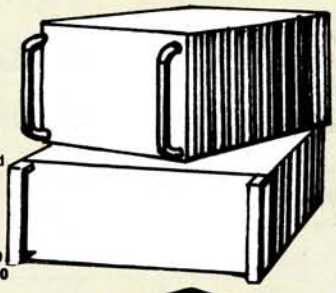


Aluminium Boxes

Just the shot for those weekend projects that get left lying around! Put them in an economical aluminium box... The boxes come in two pieces which slide together — they even come with screws to hold them together! Versatile and very useful — and in a wide range of sizes. Natural finish.

		Ea	10 up	Wt.
110 x 51 x 70mm	Cat H-2300	$3.45	$3.10	80g
104 x 60 x 46mm	Cat H-2305	$2.90	$2.65	69g
127 x 102 x 76mm	Cat H-2320	$4.95	$4.45	148g
133 x 76 x 54mm	Cat H-2325	$4.40	$3.95	104g
152 x 132 x 103mm	Cat H-2330	$6.25	$5.65	251g
180 x 158 x 118mm	Cat H-2335	$10.35	$9.35	364

"Horwood" Instrument Cases



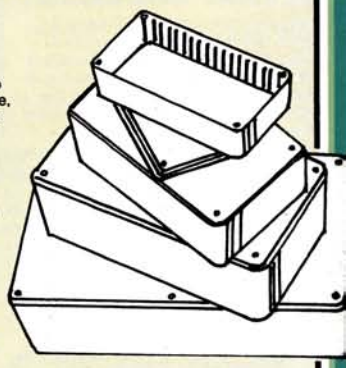
Favourites of hobbyists and professionals around the world — Horwood cases feature removable front and rear panels, lids, and front-mounted handles to make them look really professional. Available in two sizes:

203 x 102 x 254mm. Weight: 1kg Cat H-2455 **$27.80**
310 x 75 x 250mm. Weight: 1.2kg Cat H-2465 **$27.80**

Diecast Aluminium Boxes

Precision die-cast boxes have always been expensive, but these boxes prove you don't have to pay through the nose! English and Australian made, and you save a fortune over inferior models! These are the ones with channelled walls for easy PCB mounting — and they're ideal for RF circuits because the lid forms a very effective screen. They're also great for circuits involving heat — remember diecast aluminium makes a great heatsink. And these boxes will withstand incredibly high temperatures: up to 600°C! Complete with screws.

		Ea	10 up	Wt.
190 x 60 x 110mm	Cat H-2201	$17.30	$15.55	-
150 x 50 x 80mm	Cat H-2206	$11.05	$10.95	-
120 x 40 x 65mm	Cat H-2211	$8.05	$7.25	359g
100 x 25 x 50mm	Cat H-2221	$6.25	$5.65	204g



All-steel Project Case

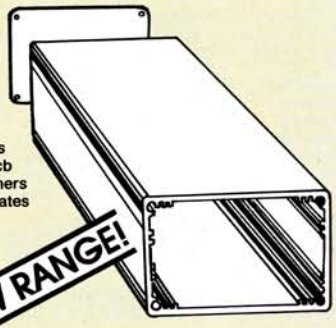
Two-part case ideal for all your small instruments, etc. Twin 'U' construction, top is slotted for ventilation. Size 160 x 130 x 50mm. Finished in Blue with metalic base. Cat H-2762

$8.70 Shipping weight: 380g

10 up $7.85

Extruded Aluminium Cases

Superb range of cases based on a specially made 18 gauge aluminium extrusion giving cases which are ultra strong, ultra reliable. The extrusion measures 76 x 102mm — and is available in three different lengths. Internally, there are four slots for insertion of pcb's without use of screws (pcb width 92 or 71mm). End plates fasten into corners of extrusion with PK screws. Includes 2 end plates and 8 screws.



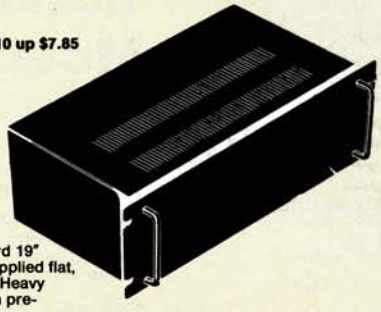
NEW RANGE!

76mm length Cat H-2420 **$10.95**
Weight: 180g
Case size: 102 x 76 x 76mm

102mm length Cat H-2425 **$12.95**
Weight: 230g
Case size: 102 x 76 x 102mm

153mm length Cat H-2430 **$14.95**
Weight: 330g
Case size: 102 x 76 x 153mm

19" Rack Mounting Case



Quality black instrument case fits standard 19" racks, overall they're 4.2 x 25 x 14cm. Supplied flat, assembly takes just a couple of minutes. Heavy gauge (3mm) front panel; top and bottom pre-punched for ventilation. Cat H-2481

$54.95 Shipping weight: 330g

10 up $49.46

19" Zip Rack

The hobbyists' favourite storage system. Easy to assemble sections snap into place for organising amateur transceivers, Hi-Fi, etc. Cat H-2470

$149

Zip-Rack Equipment Tray

Designed especially for the Zip-Rack system — easy clip-in tray measuring 485mm (19"l) x 330mm. Includes 4 nylon clips. Maximum load 8kg — suits amateur, computer, CB, video & audio systems, etc. Cat H-2471

$22.55

Zip-Rack Hardware Pack

Allows you to mount 19" rack-mounting equipment direct to the Zip-Rack without using shelves. Cat H-2472

$11.55

Bench-in-a-box!

Here's fantastic value — and convenience. It's a full size workbench with four levels for amateur, computer, general hobby use — even sewing, etc etc — that comes in knocked-down form ready to assemble. And all you need is a shoe (some people use a hammer, but a shoe is quite adequate!). Brushed aluminium, expertly mitred for superb alignment when constructed. Basic bench kit contains no bench tops (see below) — you can choose plain fibreboard, Melamine finish, even glass or anything else. Cat H-2480

$249

Bench Top Pack

White Melamine-finish bench tops pre-cut for above bench — these are specifically made to simply drop into place without any tools or cutting. Pack of 10 boards. Cat H-2485

$124.95

Hardware

Self-Tapping Screw (Packs)

Ideal for projects or as replacements for lost screws. These units are Cadmium plated steel.

	Pack Qty		Ea	10 up	Wt.
No. 4 x 12mm: Size 40	25	H-1612	$1.30	$1.15	16g
No. 4 x 6mm: Size 40	25	H-1611	$1.30	$1.15	12g
No. 8 x 12mm: Size 30	25	H-1632	$1.30	$1.15	37g

Nylon Nuts and Bolts

Precision moulded from '66' white nylon. Fully insulated, will not shake loose, can resist high temperatures and they are corrosion free. These items are hard to get but we have them and they are ideal for transistor and heatsink use. Tough but light.

Description	Pack Qty	Cat No.	Price per pack	10 up	Wt.
12mm x 4BA cheese hd	10	H-1012	$1.15	95¢	3g
25mm x 4BA cheese hd	10	H-1022	$1.15	95¢	5g
4BA hex nut	12	H-1302	$2.30	$2.05	2g
4BA nylon washer	12	H-1452	$1.15	$1.05	2g
12mm x 6BA cheese hd	10	H-1032	$1.15	95¢	1g
25mm x 6BA cheese hd	10	H-1042	$1.15	95¢	4g
6BA hex nut	12	H-1312	$2.30	$2.05	2g
6BA washer	12	H-1462	$1.15	$1.05	1g

Steel Nuts and Bolts

⅛" Whitworth round head zinc plated — just the kind of item that should be in your 'ready' box for future projects.

Description	Pack Qty	Cat No.	Ea	10 up	Wt.
9mm long	25	H-1052	90¢	85¢	18g
2mm long	25	H-1062	90¢	85¢	23g
5mm long	25	H-1072	$1.15	$1.05	29g
3mm hex nut	30	H-1322	95¢	90¢	15g
3mm s-proof washer	50	H-1472	90¢	85¢	6g
3mm metal washer	50	H-1482	90¢	85¢	14g

BA Type Nuts and Bolts

Both brass and steel types in cheesehead.

	Pack Qty	Cat No.	Ea	10 up	Wt.
12mm x 4BA bolt	25	H-1082	$1.05	95¢	31g
4BA hex nuts (brass)	20	H-1332	$1.30	$1.15	15g
4BA flat washer (steel)	50	H-1488	$1.15	$1.05	12g
4BA s-proof washer	50	H-1486	$1.15	$1.05	7g
2mm x 6BA bolts	25	H-1092	$1.30	$1.15	22g
6BA hex nuts (brass)	25	H-1342	$1.30	$1.05	9g

6BA pack containing 12 of each — 12mm bolts, brass nuts and shakeproof washers. A total of 36 units.
Cat H-1684 ..... $1.35
10 packs or more $1.20

8BA pack containing 12 of each — 12mm brass bolts, nuts and washers. A total of 36 units.
Cat H-1682 ..... $3.45
10 packs or more $3.10

Switch Screws

Cross pan-head screws to suit most switches with threaded mounting holes. Two sizes to choose from, each pack has 10 pieces:

		Ea	10 up	Wt.
3 x 10mm	H-1672	$1.05	95¢	10g
2 x 5mm	H-1674	$1.15	$1.05	5g

Big Pack of Screws!

You know the type: the one's you're always missing! ¼" pk screws (self tappers to the uninitiated) — a pack of around 500. Cat H-1625

Weight: 210g

$2.65

Metric Screw Packs

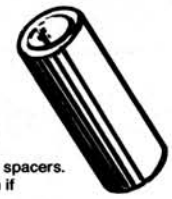
Description	Quantity	Cat No	Price	10 up	Wt.
Asst P/H	160pc	H-1500	$2.15	$1.95	55g
S/Tap Screws	150pc	H-1505	$2.15	$1.95	42g
Asst C/S			$6.25	-	166g
S/Tap Screws	320pc	H-1510			
Asst P/H		H-1515	$2.65	-	113g
Machine Screws	270pc				
Asst C/S			$3.95	-	-
Assorted Nuts	340pc	H-1520			
Asst Washers	680pc	H-1525	$2.50	-	102g

Insulated Spacers

The ideal spacer for insulating the chassis from your PC board. They come complete with screws.

Description	Pack Qty	Cat No.	Price per pack	10 up
10mm	5	H-1861	$3.15	-
15mm	5	H-1862	$3.15	$2.65
20mm	5	H-1871	$3.15	-
25mm	5	H-1872	$3.45	$2.65

Plated Brass Spacers



High quality nickel plated brass spacers. May be stacked for extra length if required.

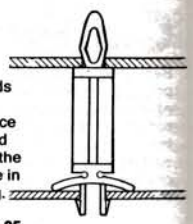
4BA (⅛") clearance hole 6mm OD

Description	Pack Qty	Cat No.	Price per pack	10 up	Wt.
6mm	12	H-1831	$4.95	$2.66	16g
9mm	10	H-1832	$3.15	$2.80	9g
12mm	8	H-1833	$3.15	$2.80	9g
25mm	6	H-1834	$1.60	$1.45	11g

Hexagonal 4BA tapped 6mm OD

			Ea	10up	Wt.
9mm	6	H-1842	$1.60	$1.45	15g
12mm	6	H-1843	$3.15	$2.85	18g
25mm	4	H-1847	$1.60	$1.45	25g

Circuit Board Supports



Designed to hold printed circuit boards in position with sufficient clearance above the chassis. They snap into place and can be easily installed or removed by hand. They require a 4mm hole in the PC board and 4.75mm clearance hole in the chassis. Made of nylon. 9mm long. Cat H-1981

Pack of 6 ..... $1.05
10 up 95¢

Weight: 3g

TO-3 Transistor Insulating Cap

A high quality plastic cap that is a press fit over TO-3 transistors. Avoid shorts to chassis (which could blow the transistor) or exposed high collector voltages (which could blow you!). Fit a cap to those TO-3's. Cat H-1918

50¢ Weight: 5g

Insulated Transistor Mounting Kits

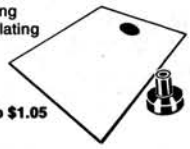
TO-3 Type

A pack of four TO-3 transistor mounting kits (mica washer and 2 bushes). Specially selected to give maximum heat transfer. Cat H-1917

$1.15 Weight: 2g
10 up $1.05

TO-220 Type

Now there's no problem in mounting TO-220 type semis. Pack of 5 insulating washers and bushes. Cat H-1916



$1.15 Weight: 3g
10 up $1.05

5mm LED Mounting Bezels

Pack of 15

When making up projects that have LED power indication or otherise why not 'dress' your LEDs for that added professional touch. They work out at less than 10¢ each! Cat H-1910

Pack of 15 ..... $1.45
10 packs or more $1.30

Weight: 8g

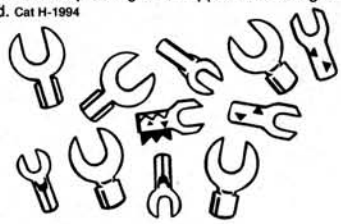
Assorted Spade Lug Pack

Approximately 100 plated finish spade lugs which are ideal for a huge variety of hobbyist uses: speaker connections, earth terminals, automative wiring, etc. They can be either crimped or soldered depending of the application. Range of sizes supplied. Cat H-1994

$6.25

10 up $5.65

Weight: 88g

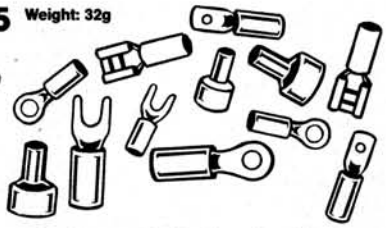


Assorted Crimp Lug Pack

30 crimp lugs of various types, all with insulation already attached. Can be crimped with either crimping tool or a pair of pliers. 30 lugs and cable joiners in handy pack. Cat H-1996

$5.25 **Weight: 32g**

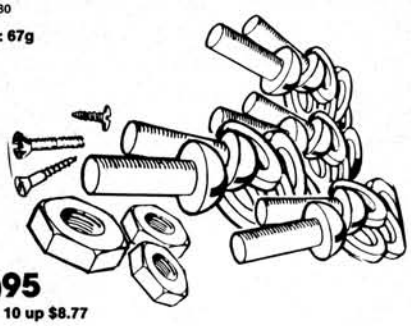
10 up $4.70



Assorted Metric Screw Pack

Over 200 pieces of the most popular small sizes: M2.5, 3 and 4 nuts and screws — cross, round and countersunk head. Plated finish, ideal to have on hand in the workshop! Cat H-1680

Weight: 67g



$9.95
10 up $8.77

Dress Nuts

Pack of 5 5mm dress nuts for standard miniature toggle switches. Makes that panel look really snazzy! Cat H-1912

Weight: 10g

$1.15

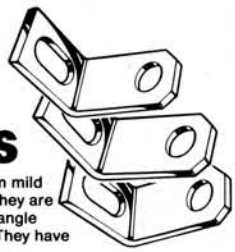
Weatherproof Hoods

Again designed for standard miniature toggle switches, these screw onto the switch to prevent moisture ingress. Ideal for switches in marine applications. (Note: only protect toggle, not rear of switch). Pack of 8. Cat H-1914

Weight: 15g

25¢

Right Angle Brackets



These brackets are made from mild steel with Cadmium plating. They are ideal for projects where right angle mountings have to be made. They have a 3mm clearnance. Cat H-1895

$4.60

Weight: 5g **10 up $4.15**

Grommets

Heavy duty grommets made of black rubber. Essential when cable passes through a metal chassis as they will prevent frayed cables and live chassis.

Hole Size	Bore	No. in Pack	Cat No.	Price	10 up	Wt.
8mm	5.5	10	H-1712	$1.35	$1.20	8g
16mm	6	10	H-1716	$1.35	$1.20	15g
12mm	9	8	H-1719	$1.35	$1.20	13g

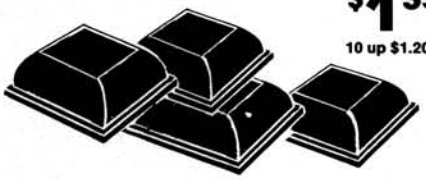
Rubber Feet Self-Adhesive

Just think — no holes to bore in your chassis, you just stick these handsome black feet on! They have hundred of uses including being used on store bought equipment. Cat H-1745

15 x 5mm small square **Weight: 5g**

$1.35

10 up $1.20



Rubber Feet — Screw-on

The conventional rubber feet that have a 3mm hole for screw mounting. Made of black rubber, they can also be cemented on to your project. Cat H-1736

Weight: 10g

8 in a pack

$1.35

10 up $1.20

Super Stick Acrylic Bumpons

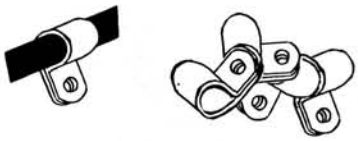
Yeh, we know. What a name! But they're probably the best "rubber" feet you'll ever find for projects, even for your appliances (videos, cassettes, etc.). Tough acrylic means they won't wear — but they won't scratch either. And they're super self-adhesive: just peel them off their backing paper and stick in position. Amazing? No — but useful! Pack of four Bumpons. Cat H-1740

$1.15

Cable Clamps

These are heavy duty Nylon cable clamps and are a must for terminating power cords and all cables, especially in projects.

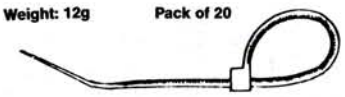
			Ea	10 up	Wt.
Cables up to 5mm diam.	5	H-1964	$1.05	95¢	6g
Cables up to 6mm diam.	5	H-1965	$1.05	95¢	5g
Cables up to 8mm diam.	5	H-1966	$1.05	95¢	-



Cable Ties

When making any project, that little extra professionalism will make the job look better. These units will handle up to 20mm diameter and down to 2 single wires. Cat H-1970

Weight: 12g **Pack of 20**



$1.50

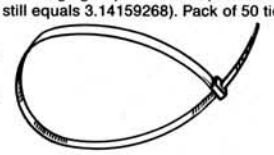
10 up $1.35

Anchor Cable Ties

Called "anchor" because they'd tie up the QE2! Huge 292mm long, hold large groups of cables (almost 90mm diameter if pi still equals 3.14159268). Pack of 50 ties. Cat H-1968

Weight: 110g

$4.95



Cable Ties

Not quite as big as above, but still a healthy 156mm — and there's still 50 in the pack! Includes mounting hole for screwing/nailing in position if required. Cat H-1969

Weight: 50g

$3.95

Cord Clamp Grommets

This is a self-locking grommet that maintains a secure grip on the cable without the use of separate clamps. Both a grommet and a clamp in one! Fits 3 core miniflex or equivalent cable size. Hole size 12 to 16mm. Cat H-1724

Pack of 4

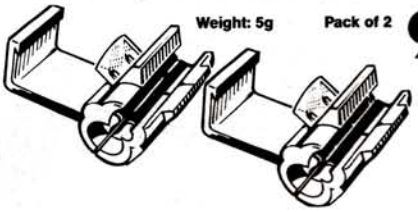
$1.35

$1.20

Cable Joiners

How many hours have you spent stripping, soldering and insulating wire? Forget it in the future! These brilliant connectors join wires instantly. All you have to do is lay the two wires to be joined inside the connector and squeeze the connector together with pliers. Can be used in car wiring, trailer wiring, etc. Hundred of uses. 2 per pack. Cat H-6720

Weight: 5g **Pack of 2**



90¢

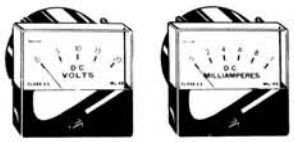
10 up 85¢

Meters/Bezels

Meters
Standard Range Panel Meters

A high quality range of moving coil meters, with full scale accuracy better than 2%. Pre-calibrated in 5 popular varieties; easily adapted to suit virtually any rquirement with shunts and multipliers. The scale area is covered in clear perspex, with the remainder of the meter body matte black. All the meters have a fine needle for optimum accuracy in reading, and all have mechanical zero adjustment. Mounting is by four bolts (mounted on meter body) with nuts and washers supplied.

Dimensions:
Scale area — 58 x 31mm
Overall — 58 x 52mm
Mounting:
Hole required — 44mm
Bolt holes: 38mm square

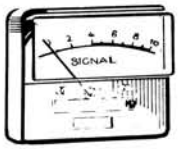


VU Meter
-20 +/-3VU
(1.228V/0dB) $16
Cat Q-2050

0-1mA	0-50uA	0-20A	0-20V	0-5A
(200 ohms)	(3500 ohms)	(0.007 ohms shunt)	(1k ohms)	(0.03 ohms shunt)
Cat Q-2010	Cat Q-2020	Cat Q-2035	Cat Q-2040	Cat Q-2030
$14.85	$14.85	$14.85	$14.85	$14.85

Level Meters

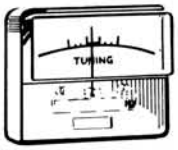
Particularly suitable for AM/FM tuner and receiver projects, but also ideal for a huge range of other projects. Meter scale size 35 x 15mm (same size as cut-out required); impedance 1k. Straw coloured meter face, looks really great back-lit.



$5.95

Signal Strength

250uA FSD
scale labelled 1-10
Cat Q-2100



$5.95

Tuning Centre Zero

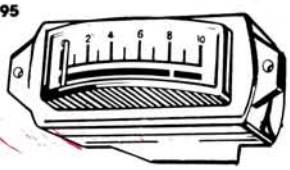
Sensitivity is 250uA half FSD
(in either direction)
Cat Q-2095

Edge Level Meter

500uA FSD
500 ohms
Cat Q-2110

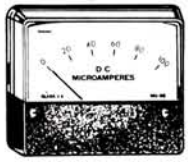
As used in many imported cassettes, amplifiers, etc. Graduated 1 to 10 with 'battery check' stripe under the main scale. Scale size 32 x 10mm, it is ideal for a fine level adjustment meter, audio or battery level, etc. Mounts with screws, hole centres 49mm.

$5.95



Large Panel Meters

In two ranges — 100uA and 1mA. Large style for larger projects. Size is 100 x 82mm, scale size 100 x 50mm. Requires a 63mm mounting hole, bolt centres 80 x 64mm. Nuts and washers provided.



$19.95 0-1mA (200 ohms) Cat Q-2060

$19.95 0-100uA (3500 ohms) Cat Q-2070

Moving Iron Range

Rugged and accurate AC/DC meters ideal for power supplies. etc. Oval style meter, size approx. 55mm wide x 58mm high.

0-10 (AC & DC)
Cat Q-2090
$19.95

Bezels

Miniature LED Bezel

Our most popular. Low current drain (20mA @ 2 volts) but offering high visibility. Smart chrome bezel, needs a 7mm hole, Two colours available:
Red Cat S-3528
Green Cat S-3529

$1.50

Miniature Neon Bezel

A favourite because of its tiny size. Used a lot in mains powered projects — simply use 270k resistor in series. Requires only 7mm mounting hole, and the bezel itself is chrome-coloured. Remeber to use a series resistor with all neons — they tend to get upset otherwise! Cat S-3552

$1.60

Dual Colour LED Bezel

Red and green in one!

A fantastic idea! Two LEDs in one bezel — ideal for two-state indication (on/off, etc.). Chrome plated bezel, ideal for logic circuits, etc. Operates on 1.3-1.5V @ 25-30mA. Cat S-3530

$4.60

240V Neon Bezel

Intended for 240 volt projects, this bezel can be wired direct to the mains. It has a series resistor actually mounted inside the bezel case. It requires a 9mm mounting hole, front of bezel is neat clear plastic resulting in high visibility red light from neon.
Cat S-3550

$1.25

LED Mounting Bezels

When using LEDs on front panels, etc, use these self-locking bezels. Suit standard size (5mm) LEDs, and make a really neat job. They work out at around 9¢ each! (Pack of 15 bezels). Cat H-1910

$1.35

12V Bezel

A very attractive medium size bezel using a 12V LES bulb. The plastic lens is available in two colours (red and green) for various uses, and the lens itself is flat-topped, resulting in a modern appearance. The body of the bezel is chrome plated. Requires an 11mm mounting hole, and obviously 12volts AC or DC. Don't forget to order the colour you require.
Red Cat S-3510
Green Cat S-3512

$1.65

4.5 Digit LCD Panel Meter

$79

Replace d'Arsonval meters with LCD digital: this 4½ digit module makes it easy. "Full scale" of 200mV or 2V (user selectable) and a super high input impedance (>100 megohms) makes adaption to a range of applications very simple. In fact, the supplied instruction manual gives several possibilities to get the grey matter ticking! Cat Q-2202

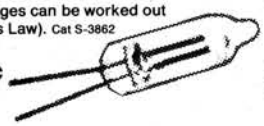
Features:
Single supply rail (9V)
Low supply current (2mA max)
High accuracy (.01% +/-2 digits)
Auto zeroing & overrange inbuilt
Meter size: 71 x 46 x 21mm

Shipping weight: 100g
Shipping size: 120 x 80 x 40mm

Lamps

Neons

Small pigtail type neon bulb as used in indicators, timing circuits, oscillators, etc. etc. Striking voltage 70-90 volts at 600uA. For 240V operation use 270K ¼W resistor (other voltages can be worked out from Ohm's Law). Cat S-3862

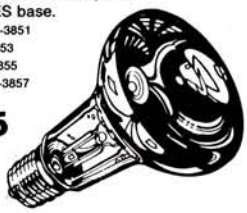


40¢

R80 Daylamps

Ideal for display, party or other decorative or warning purposes. Available in four colours; 240V operated. ES base.

Yellow Cat S-3851
Red Cat S-3853
Blue Cat S-3855
Green Cat S-3857



$5.95

Holder to suit

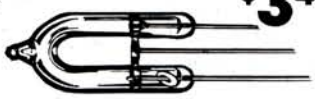
Swivel Edison Screw lamp holder to suit R80 bulbs. Cat P-5620

$6.25

Xenon Flashtube

Xenon-filled flashtube, as used in strobes, warning and safety applications, photographic work, etc, etc. And look at the bargain price: you'd expect to pay double! Operate from 200-400 volts (300V nominal) with 4kV trigger, 5 watts maximum input power. Cat S-3882

$3.45



Trigger Transformer to suit

4kV trigger transformer for above flashtube. PCB mounting type, 300V primary, 4kV sec. Cat M-0104

$1.45

MES/LES Lamps

Miniature Edison Screw (MES) and Lilliput Edison Screw (LES) bulbs for dial lamps, etc. Standard 6 and 12 volt types. Ideal for all new work and replacements.

MES 6 volt Cat S-3806, 12 volt Cat S-3812

$40

LES 6 volt Cat S-3836, 12 volt Cat S-3842

Socket to suit MES bulbs. Cat S-3880

Floodlamps

85¢

Oops! Wee gooft! Last year we left PAR38 coloured bulbs out. We're sorry. We apologise! Look, they're back in already! Please stop punching out our store staff...

PAR 38 Coloured Bulbs

240 volt, highest quality pressed glass with internal reflector. Ideal for semi-rough handling (they are glass, after all!) — eg disco and lightshow use. All rated at 100 watts, ES (Edison screw) fitting.

Yellow: Cat S-3850
Red: Cat S-3852
Blue: Cat S-3854
Green: Cat S-3856

$9.95

ES Lampholder to suit:

Batten mounting, swivels through 30°. Cat P-5620

$6.25

Halogen Torch Bulbs

At last the benefits of halogen have come to low voltage bulbs: whiter, stronger light. Less infra-red output so they're more efficient. In fact, the manufacturers say up to 300% brighter than conventional bulbs. And yes, they are more expensive — but so are batteries these days. So why waste power? **Note:** halogen bulbs operate at higher temperature so should only be used in torches designed for these bulbs. 3 voltages to choose from: all standard captive fitting.

2.8 volt — use with 2 x "D" batteries Cat S-3950
4.0 volt — use with 3 x "D" batteries Cat S-3955
5.5 volt — use with 6 volt lantern or 4 x "D" batteries Cat S-3960

All **$7.65**

"Grain of Wheat" Bulb

Tiny globe as used in many push buttons and flashing alarm lights. 12 volt, 60mA bulb with hard-wire (push-in) contacts.

$2.75 Cat S-3845

3.5 digit LCD Panel Meter

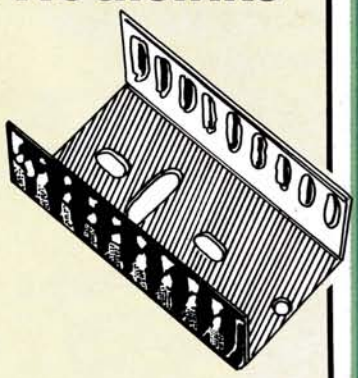
Similar to meter at left, but with 3.5 digits — so when you don't need that extra resolution, you save! Also features high input impedance (100M), guaranteed zero reading for zero input, 200mV full scale input sensitivity, etc etc. The meter can be self mounted — includes a mounting bezel to make your project look really professional. Comprehensive data sheet included, showing several circuit variations. Cat Q-2200

$54.95

Aluminium Heatsinks

Universal

Universal hole pattern allows the mounting of virtually all 'power' type semiconductors. Ribbed walls and black anodised finish for maximum efficiency. Cat H-3401



$1.40

PCB Mounting

Just right for today's projects with eveything mounted on the pcb: two heatsinks that also mount on the pcb. Designed to be soldered direct to the tracks, with their fins mounted vertically for even more heat loss. Two handy types to choose from:

Large:

H pattern, 30 x 30 x 30mm, drilled to take a single flat-pack semiconductor (can be re-drilled for other types). Cat H-3495

$2.65

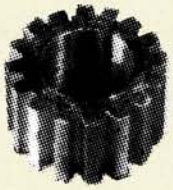
Small:

U pattern, 17 x 15 x 30mm high. Again, drilled for a single flat-pack, with tapped 4BA hole. Cat H-3490

$2.05

Round TO-5

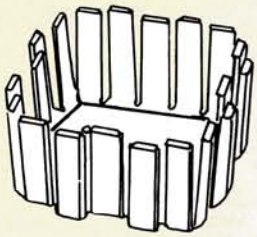
Manufactured to exacting tolerances to ensure a snug fit and best possible heat transfer on TO-5 cases. Massive body allows rapid heat dissipation. Cat H-3412



80¢

Powerfin for TO-3

This heatsink gives the greatest possible heat dissipation in the smallest possible space. It is a unique fin design that gives a very high air to metal ratio (thermal rating approximately 5°C/watt). Measures only 50mm square x 26mm high, pre-punched to suit TO-3 case. Black anodised finish. Cat H-3400



$2.65

Versatile Power Heatsink

The ingenious design of this heatsink makes it possible to mount it either flat on a panel, or at right angles to it (eg inside a case). The side fins also have tongue and groove so they may be joined sideways. Drilled version takes 2x TO-3's. Size is 78 x 110 x 33mm.

Undrilled Cat H-3460 **$6.70**

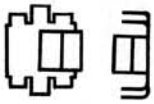
Pre-drilled Cat H-3461 **$6.90**

Heatsinks continued...

TO-220 Heatsink Packs

Pack of five clip-on heatsinks for TO-220 type semis (also adaptable to other types). Size 25 x 20mm, spring-type connection ensures good metal contact for efficient heat transfer. Cat H-3415

Shipping weight: 9g
Shipping size: 120 x 80 x 30mm



$4.40

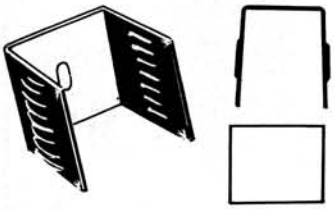
Mini

Because it suits virtually all flat (plastic type) semiconductors, this heatsink is used extensively on PCB, etc. Has vertical flutes for maximum thermal efficiency. Cat H-3402

Shipping weight: 10g
Shipping size: 100 x 90 x 30mm

Cat H-3401 ..... **$1.50**

10 up $1.35



Economy Power Heatsink

Flag mounting with fins both top and bottom. Available in either drilled or undrilled versions, drilled accepts two power transistors of most types. TO-3, TO-126, TO-220, etc. Size 74 x 102 x 25mm. Thermal resistance mounting surface to ambient -1°C/watt (at 2ft/sec forced air flow). Mounting surface temperature rise above ambient with no forced air flow 60°C @ 30W heat dissipation level.

Undrilled Cat H-3470
Shipping weight: 128g
Shipping size: 160 x 110 x 30mm

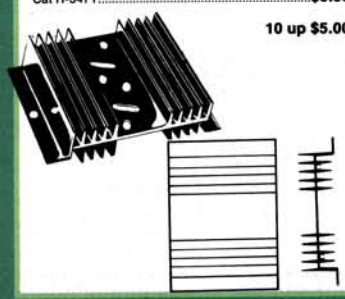
Cat H-3470 ..... **$5.25**

10 up $4.45

Pre-drilled Cat H-3471
Shipping weight: 105g
Shipping size: 200 x 110 x 35mm

Cat H-3471 ..... **$5.55**

10 up $5.00



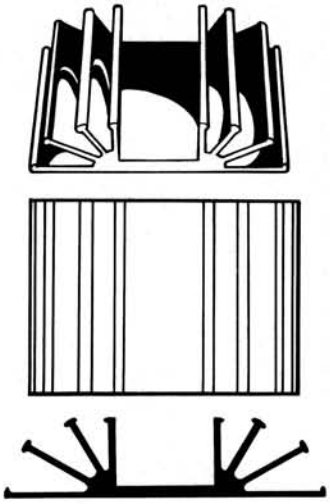
High Efficiency Power Heatsink

With its thick base and radial fin design this heatsink is able to dissipate huge amounts of heat. It is black anodised for even greater efficiency. Thermal resistance mounting surface to ambient -1°C/watt (at 2ft/sec forced air flow). Mounting surface temperature rise above ambient with no forced air flow 60°C @ 30W heat dissipation level. Cat H-3422

Shipping weight: 132g
Shipping size: 101 x 80 x 30mm

Cat H-3422 ..... **$5.25**

10 up $4.70



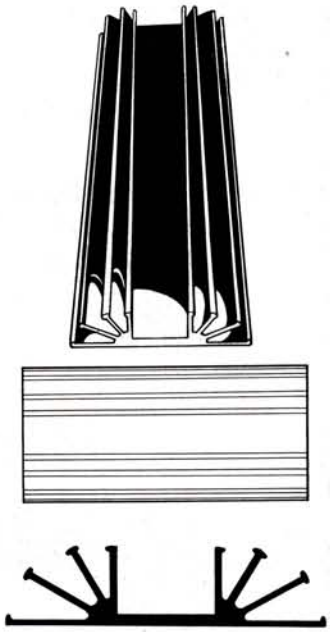
Extra Heavy Duty Powerfin Heatsink

Similar to above heatsink in cross section, but three times the length. For those big projects where a lot of heat has to be removed. Cat H-3426

Shipping weight: 405g
Shipping size: 102 x 303 x 30mm

Cat H-3426 ..... **$13.05**

10 up $11.75



Relays

Cradle Relays

Our standard cradle relay range is perfect for hobbyist projects, industrial replacement, etc. They suit the sockets below if PCB mounting is required. Insulation effective to 500V at 50Hz, with contacts rated at 30W (1A or 100V). Operation time typically 6-10ms, relative time typically 3-4ms.

Shipping weight: 7g
Shipping size: 35 x 30 x 19mm

S-7012 ..... **$9.95**
10 up $9.25

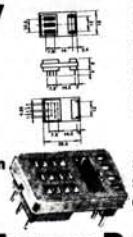
S-7020 ..... **$11.95**
10 up $11.25

	S-7012	S-7020
Voltage	12 volt	12 volt
Contact type	DPDT	4PDT
Coil voltage — Min.	8V	8V
Nom.	12V	12V
Max.	17V	17V
Coil Resistance	325 ohms	185 ohms
Contact assembly	2 C/O	4 C/O

Cradle Relay Socket

Silver plated socket to suit Cradle relays. 4 C.O. type Cat P4734

Shipping weight: 2g
Shipping size: 29 x 20 x 13mm



$3.95 **10 up $3.50**

12V Automotive Relays Horn Relay

Heavy duty relay intended for use in 12 volt vehicle systems. Very high contact rating is ideal for horns, ignition, disables burglar alarms, etc. Negative switching only. SPST contact. Cat S-7302

Contact current (max): 20A
Contact voltage (nom): 12V
Nominal coil voltage: 12V

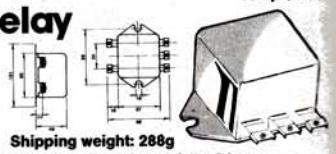
Shipping weight: 8g
Shipping size: 35 x 27 x 20mm

Cat S-7302 ..... **$5.85**
10 up $5.55

Double Pole Lamp Relay

Very heavy duty relay, with double pole contacts each rated at a massive 30 amps. Ideal for such applications QI driving lights — or wire both contacts in parallel for a huge 60 amps single pole relay! Cat S-7304

Contact current (max): 2 x 30A
Contact voltage (nom): 12V
Nominal coil voltage: 12V



Shipping weight: 288g
Shipping size: 10.5 x 10.5 x 54mm

Cat S-7304 ..... **$24.95**
10 up $15.80

PCB Mounting Coax Relay

Mini pcb mounting relay with fully enclosed contacts. Coil rated at 12 volts, 80mA. Handles up to 1000MHz — so is ideal for all HF, VHF and UHF switching applications. Size overall 35mm square x 15mm high. Make up your antenna switching unit and save $$$ on coax cable runs! Cat S-7402

Shipping weight: 18g
Shipping size: 36 x 33 x 11mm

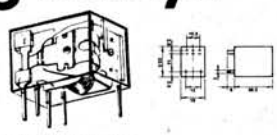
Cat S-7402 ..... **$39.85**
10 up $35.90

PCB Mounting Relays

Ultra Miniature

Low cost mini relay for projects without a lot of spare room! Fits a standard 2.54mm matrix (eg Vero or DIL) boards and the 5V version interfaces (via suitable buffer) to TTL. Contact rating is 100V at 0.5A (res). SPST.

	S-7105	S-7112
Contact current (max):	1A	1A
Contact voltage (max):	100V AC	100V AC
Nominal coil voltage:	5V	12V
Coil resistance:	56 ohm	320 ohm



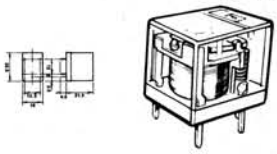
Shipping weight: 4g
Shipping size: 15 x 14 x 11mm
Shipping weight: 6g
Shipping size: 14 x 12 x 7mm

Cat S-7105 ..... **$4.95**
Cat S-7112 ..... **10 up $4.50**

Miniature

Small in size but very handy contact rating! The silver plated SPDT contacts will handle up to a massive 2 amps (at 24V DC or 100V AC). Nominally 8 to 12V operating, but will work ok up to 15 volts. Cat S-7120

Contact current (max): 2A
Contact voltage (nom): 100V
Nominal coil voltage: 8-12V
Coil resistance: 225 ohm

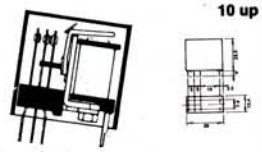


Cat S-7120 ..... **$2.95**
10 up $2.75

Standard

Our most popular relay. Ideal for direct mounting on PCB's. Housed in plastic dustproof case: as used in a large number of EA and ETI projects.

	SPDT S-7125	DPDT S-7130
Contact current (max):	5A	5A
Contact voltage (max):	240V	240V
Nominal coil voltage:	12V	12V
Coil resistance:	180 ohm	200 ohm



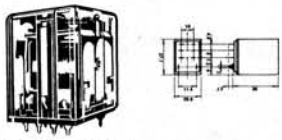
Shipping weight: 17g
Shipping size: 30 x 30 x 12mm

Cat S-7125 ..... **$8.50**
Cat S-7130 ..... **10 up $8.25**

High Rating Power Relay

A small, but high capacity relay ideal for power switching with a massive contact rating of 10A. Great for switching 240V projects from transistor or IC control. Cat S-7200

Contact current (max): 10A
Contact voltage (nom): 240V
Nominal coil voltage: 12V
Coil resistance: 160 ohm



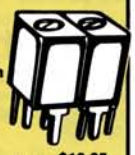
Shipping weight: 8g
Shipping size: 40 x 27 x 20mm

Cat S-7200 ..... **$9.95**
10 up $9.50

UHF Helical Filters

High quality UHF Helical filters (also known as helical resonators) — as used on our UHF amateur transceiver kit. They're miniature low impedance band-pass filters, specifically made for either the UHF amateur band (centre 440MHz) or the UHF CB band (centre 477MHz). Incredibly handy because it's so difficult to wind your own coils for these frequencies: all the hard work is done for you.

Specifications:
(similar for each except for centre frequency)
Bandwidth: 12MHz min (at -1dB)
Selectivity: 12dB min (Fo+/-30MHz)
Insertion Loss: 3dB max
Impedance: 50 ohms in and out
Size: 15 x 13 x 7mm
440MHz Cat L-1850
477MHz Cat L-1860
Shipping weight: 15g
Shipping size: 14 x 12 x 7mm



L-1850 ..... **$10.95**
L-1860 **10 up $10.35**

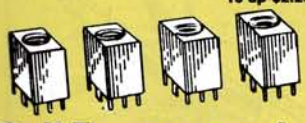
Pot Core Assemblies

Philips P36 assembly consisting of 2 cup cores and former. Replaces FX2242 36mm core diameter. Cat L-1436
Shipping weight: 29g
Shipping size: 35 x 35 x 10 mm
L-1436 ..... **$5.95**

Former to suit FX2242 core. Cat L-1437
Shipping weight: 8g
Shipping size: 27 x 27 x 14mm
L-1437 ..... **70¢**

Slug Tuned IF/ OSC Coil Pack

Ideal for experimenters and service technicians. Set comprises 1st, 2nd and 4rd 455kHz standard miniature IF tranformers and standard b/c oscillator coil. Cat L-0260
Shipping weight: 10g
Shipping size: 70 x 60 x 10mm
L-0260 ..... **$2.50**
10 up $2.25



Coil Formers and Accessories

5mm former, subminiature (4mm core). Code 722/1. Cat L-1010
Shipping weight: 5g
Shipping size: 18 x 5 x 5mm

L-1010 ..... **50¢**

6 pin base. Cat L-1015
Shipping weight: 6g
Shipping size: 13 x 13 x 7mm
L-1015 ..... **50¢**

Can to suit above 12.7 x 12.7 x 19mm. Code 7100. Cat L-1020
Shipping weight: 9g
Shipping size: 18 x 13 x 13mm

L-1020 ..... **50¢**

455kHz Ceramic Filter

Murata (cFW455E) the modern replacement of the IF transformer. Two resonators are coupled by an external capacitance to give maximum selectivity with a flat response. Typical selsectivity 20dB min at +/-10kHz with 3dB bandwidth of +/-4.5kHz. Cat L-1610
Shipping weight: 0.4g
Shipping size: 0.5 x 4 x 4mm
L-1610 ..... **$6.25**
10 up $5.65

RF Chokes

1uH	Cat L-1759	47uH	Cat L-1787
1.5uH	Cat L-1761	68uH	Cat L-1791
2.2uH	Cat L-1763	82uH	Cat L-1793
3.3uH	Cat L-1765	100uH	Cat L-1795
4.7uH	Cat L-1767	150uH	Cat L-1799
6.0uH	Cat L-1769	220uH	Cat L-1803
8.2uH	Cat L-1771	330uH	Cat L-1807
10uH	Cat L-1773	470uH	Cat L-1811
15uH	Cat L-1775	560uH	Cat L-1813
22uH	Cat L-1779	820uH	Cat L-1817
33uH	Cat L-1783		

All of the above values at $1.15 ea
10 up 95¢ ea

1mH Cat L-1820 **$1.19** 10 up **$1.10**
1.5mH Cat L-1822 **$1.19** 10 up **$1.10**
2.5mH Cat L-1824 **$1.19** 10 up **$1.10**
5mH Cat L-1826 **$1.19** 10 up **$1.10**
10mH Cat L-1830 **$1.19** 10 up **$1.10**

DC Smoothing Choke

Intended for car hi-fi, communications equipment, etc. where ignition, alternator or other noise gets in through the power line. Use external to device either on its own (in series with positive supply) or in conjunction with capacitor for an effective L-C filter. Cat L-1900
Shipping weight: 39g
Shipping size: 20 x 15 x 11mm
L-1900 ..... **$3.85**

RF Balun Kit

(and audio interference suppressor)

Contains a large, quality balun core (50.8mm diam.) with a quality of heavy gauge wire, suitable for up to 1kW. Full instructions supplied. Can be used for a number of antenna types up to 30MHz, in most cases they will eliminate RF breakthrough from amateur and CB gear into audio amplifiers. If the speaker leads are wound through the core (as many turns as will fit) the core stops RF energy entering the amplifier in this way. Cat D-5350
Shipping weight: 936g
Shipping size: 190 x 110 x 14mm
D-5350 ..... **$18.95**
$17.00

RF Toroid Kit

Contains two iron power cores, enamelled copper wire, application notes, inductance chart and an LCF nomograph. Toroids are used to advantage in Tank circuits, Pi networks, RF transformers, T-Networks, floating tanks, band pass filters, baluns, multiband tuners, antenna loading coils, RF traps, If networks and oscillation tanks. Two two cores provide a useful high Q spectral range of 1MHz through 60MHz. Cat L-1410
Shipping weight: 71g
Shipping size: 150 x 101 x 5mm
L-1410 ..... **$4.99**

Aerial Rod with Coil

Complete Ferrite rod with pre-wound standard b/c coil. Suits 140-160pF miniature tuning gangs. Ideal for replacements in transistor radios. Cat L-0520
L-0520 ..... **$1.75**

Aerial Rods

Approximately 194mm long, and 9mm diameter. Cat L-1401
Shipping weight: 67g
Shipping size: 200 x 10mm

L-1401 ..... **$2.95**
10 up $2.80

Telescopic Antenna

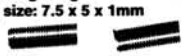
Deluxe antenna, ideal replacement for radios or use in projects. Multi section, tight fitting, chrome plated. Cat L-4902
Shipping weight: 50g
Shipping size: 160 x 0.5mm
L-4902 ..... **$5.80**
10 up $5.25

Toroids and Beads

FX1115 Ferrite Beads Cat L-1430
Philips bead 4312-020-31550 Cat L-1432
L-1430 ..... **30¢**
L-1432 ..... **70¢**

Ferrite Cores

Packet of 4 Ferrite cores type F16. Cat L-1302
Packet of 4 Ferrite cores type F29. Cat L-1307
Shipping weight: 4g
Shipping size: 7.5 x 5 x 1mm



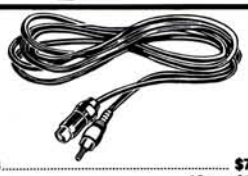
L-1302 ..... **$1.35**
L-1307 **10 up $1.20**

Balun Formers

1050/1/F14 (40 to 200MHz). Cat L-1340
1050/2/F29 (10MHz to 220MHz). Cat L-1352
Shipping weight: 10g
Shipping size: 7.5 x 5 x 1mm
L-1340 ..... **$1.49**
L-1352 ..... **$1.49**

75 ohm Video Lead

2m quality 75 ohm cable fitted with standard RCA plug one end and TV (coax) plug the other. For use with many types of VCR/TV combinations also used in some wall outlets to TV applications. Cat W-1286
Shipping weight: 404g
Shipping size: 140 x 110 x 110mm



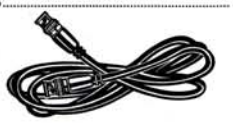
W-1286 ..... **$7.75**
10 up $7.35

'IEC' 2 metre Mains Lead

Approved 3 core 240V mains lead fitted with standard IEC line socket (as used on most computers, VCRs, transceivers, etc, etc.) and Aussie 3-pin plug on other. Cat W-1362
W-1362 ..... **$5.25**

BNC/BNC Video Cable

2 metres quality 75 ohm coax fitted with BNC plugs at each end. Suits many of the VCRs available. Why make one and risk shorts when it's already done for you? Cat W-1285
Shipping weight: 129g
Shipping size: 200 x 100 x 20mm
W-1285 ..... **$8.35**



Universal Mains Lead

Approved mains cable as used in a huge variety of imported audio, radio, video and other entertainment equipment. Two pin mains plug, approx. 2 metres cable and 'figure 8' type two-pin socket. Note: no earth lead! Ideal replacement cable. Cat W-1360

W-1360 ..... **$4.60**

Cable Coiled Microphone Cord

3 metres very flexible microphone cable, with 3 conductors plus shield. The ends of the conductors are pre-tinned and the whole cable is pre-coiled for easy use. Ideal for replacing microphone and headphone cables with appropriate sockets.

Shipping weight: 95g
Shipping size: 200 x 110 x 20mm

W-1365 ..... **$3.45**
10 up $3.10

50 ohm CB Coax Leads

Antenna 'Extension' Lead

1m 50 ohm RG58U coax fitted with PL-259 connectors at each end. Ideal for extending CB or HF/VHF amateur transceiver leads to allow antenna to be mounted further away. Cat W-1370
Shipping weight: 233g
Shipping size: 179 x 90 x 7mm
W-1370 ..... **$5.95**
10 up $5.65

Antenna Lead

Similar to above, but fitted with PL-259 plug one and lugs on other for connection to a variety of CB/amateur antennas. Cat W-1372
Shipping weight: 611g
Shipping size: 146 x 81 x 50mm
W-1372 ..... **$4.95**

Universal Video Cable Set

Own a video cassette? Want to dub tapes? You **must** have one of these amazing cable sets. Doesn't matter what type: VHS, Beta, Umatic, Philips... this suits any to any! Comes with 2 metre audio/visual cable with phono plugs on each end, plus adaptors to suit BNC, UHF (PL-259), DIN, phono, etc. Every video enthusiast should have one! Cat W-1287

Shipping weight: 944g
Shipping size: 295 x 121 x 37mm
W-1287 ..... **$29.95**

Wire & Cable

Hook-up Wire

Flexible Light Cable

PVC insulated wire that is ideal for the hobbyist. Ideal for home brew projects, etc. 12 individual colours available — save confusion.

Red	W-2220 Green	W-2225 Cream	W-2230
Black	W-2221 D Blue	W-2226 White	W-2231
Brown	W-2222 Purple	W-2227 Red	W-2286
Orange	W-2223 Lt Blue	W-2228 Black	W-2288
Yellow	W-2224 Grey	W-2229	

15¢ per metre
100m or more 12¢ per metre

Medium Duty

Slightly thicker than the above wires, fully tinned and insulated. Available in: Red Cat W-2240 and Black Cat W-2242
25¢ per metre
100m or more 23¢ per metre

Heavy Duty

24 x 0.2mm (23/.0076). Rated at 240V AC. 7.5 amps. Available in: Red Cat W-2260, Black Cat W-2262 and Green Cat W-2264
20¢ per metre
100m or more 17¢ per metre

Ultra Heavy Duty

32 x 0.2mm (40/.0076). Rated at 240V AC, 10 amps. Available in: Brown Cat W-2280 and Blue Cat W-2282
30¢ per metre
100m or more 27¢ per metre

Rainbow Cable

12 colour coded strands of insulated conductor bonded together in a flat cable. Ideal for wiring looms or intercoms etc. Can be laid under carpets. Can be split and the individual wires used — same rating as W-2220 series of wire. Cat W-2042
$1.90 per metre
100m or more $1.71 per metre

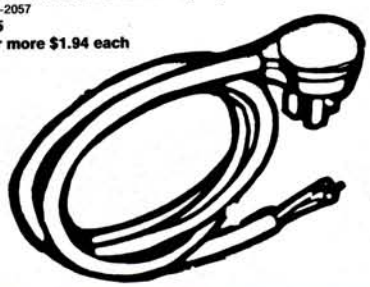
Telephone-type Cable

This is the type of wire used by Telecom Australia for internal telephone wiring. Ideal for intercoms or any other multi-wire circuit. Individually insulated and colour coded. Solid copper conductors, fully tinned for solder connection or good screw connection.
4 Conductor Cat W-2120
75¢ per metre
100m or more 68¢ per metre

12 Conductor Cat W-2140
$1.55 per metre
100m or more $1.40 per metre

Fitted Mains Cord

1.2m 7.5A 3 core flex fitted with 3-pin plug on one end: ideal for all mains projects.
Cat W-2057
$2.15
10 or more $1.94 each



3-Core Flex

3 core mains cable

A standard power cable for use where an earth is required. Each wire is separately insulated and colour coded and all three cables are contained in a plastic sleeve to give double insulation. Cat W-2055
Rated at 240V AC and 7.5 amps continuous

80¢ per metre
100m or more 72¢/m

4-Core Flex

Intended mainly for alarm applications where two conductors are used for alarm sensing and two for tamper protection or power supply, etc. Each conductor is 7/020, and individually insulated. Most alarm installations use between 50 and 100m.
Cat W-2100

95¢ per metre
100m or more 86¢/m

6-Core Flex

Intended mainly for older style rotators which require up to six conductors; also ideal for alarm installations requiring power, tamper and alarm connections.
Cat W-2042

$2.95 per metre
100m or more $1.94/m

IDC Computer Cable

Made especially for IDC (insulation displacement connector applications: flat, multi-strand cables in 4 sizes. (See plugs and sockets pages for IDC fittings).

Type	Cat No	1-9m	10 up
26 way	Cat W-2750	$3.10	$1.97
34 way	Cat W-2752	$3.85	$3.47
40 way	Cat W-2754	$4.95	$4.46
50 way	Cat W-2756	$5.75	$5.18

Shielded Audio Cable

Mono Light Duty

PVC covered, light duty, very flexible cable that is ideal for patch cords, small microphones, etc. Colour — Grey.
Cat W-2030
45¢ per metre
100m or more 41¢ per metre

Twin Shielded

2 PVC covered twin shielded conductors. Ideal for microphones, audio patch leads, hook-up wiring, etc. Flexible, light duty. Colour coded. Cat W-2034
65¢ per metre
100m or more 59¢ per metre

Twin Shielded

The same as the single conductor audio lead but with two conductors separately shielded in fig. 8 pattern insulation. Ideal for stereo connection. Colour — grey.
Cat W-2036
85¢ per metre
100m or more 77¢ per metre

Heavy Duty Twin

Two conductors individually shielded and colour coded surrounded by a heavy duty outer insulation sheath. Ideal for use where heavy handling could destroy light duty cables i.e. rock groups etc. Cat W-2037
$1.45 per metre
100m or more $1.30 per metre

4 Core Shielded

All 4 conductors are individually shielded and covered by grey PVC insulation. Ideal for use with stereo systems that have DIN type connections. Cat W-2038
$1.45 per metre
100m or more $1.31 per metre

Dick Smith Distributors

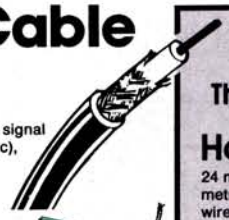
Through the DSD Wholesale operation retail resellers around Australia have the exciting opportunity to market our Dick Smith Electronics products. As a member of the DSD team you benefit through the following services:

1. The enormous nationwide advertising coverage of Dick Smith Electronics retail stores which also promotes our Distributors.
2. The most efficient Distribution network in the electronics industry.
3. The latest technology from Australia and overseas.
4. Highly competitive prices.

If you are a retailer searching for the perfect opportunity to expand your business and increase profits, contact DSD.

Phone: Sydney (02) 888 3200

Coaxial Cable



75 ohm 5C2U

High quality low loss TV coax for low signal area installations. Air cored (dielectric), similar size to 3C-2V. Cat W-2082
80¢ per metre
100m or more 75¢ per metre

50 ohm RG58C-U Commercial

Commercial Grade RG 58 with ultra-fine (10 pitch) braid for lowest loss, lowest noise figure. You asked for better quality — here it is! Cat W-2092
$1.05 per metre
100m or more 85¢ per metre

50 ohm RG-213 Low Loss

For long runs with minimum loss, without going to the expense of Heliax. RG-213 gives better performance at VHF & UHF than RG-8. Cat W-2099
$3.15 per meter
100m or more $2.80 per metre

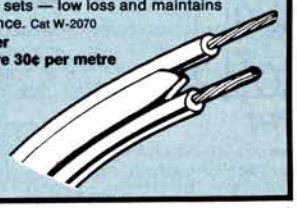
RG-178 Mini 50 ohm Teflon

Able to handle up to 100 watts at 500MHz due to the Teflon insulation. This also means you can solder directly to the shield braid without melting the insulation. Incredibly small diameter, only 2.5mm! Ideal for wiring into transmitters etc, where space is a premium. High quality. Cat W-2088
1 metre pack — $4.60

TV Ribbon

300 ohm Feeder

Suitable for indoor or outdoor use. (Black). 300 ohm feeder ribbon for connecting aerials to TV sets — low loss and maintains perfect balance. Cat W-2070
35¢ per meter
100m or more 30¢ per metre

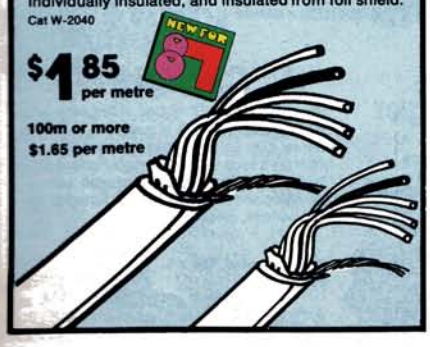


Computer Data Cable

Five core shielded cable intended for running data cables around buildings, etc., with minimum interference — pick-up or radiation. Wires are individually insulated, and insulated from foil shield. Cat W-2040

$1.85 per metre

100m or more $1.65 per metre



Wire Packs:

The economical way to buy

Hook-up Wire Pack

24 metres in total of 12 different colours (that's 2 metres of each colour) of the 10 x 0.2mm hook-up wire. Ideal for the hobbyist, experimenter, etc. Cat W-4010 **$2.90**

Resistance Wire Pack

Resistance wire suitable for the construction of wire wound resistors, small heater elements, shunts, etc. Also ideal for emitter resistors in high power amplifiers. **Wire size: 28 B&S (diameter 0.32mm). Solderable: yes. Resistance: 1.852 ohms/ft. Non magnetic, corrosion resistant. Composition: 45% Nickel, 55% Copper. Maximum continuous service temperature: 540°C.** Cat W-3200
4 meter pack — $1.05

Instrument Test Lead Wire Pack

Special 512 strand (YES 512!) very flexible wire that is ideal for test leads or for connection to something that is moving. Very low resistance and only 3mm in diameter. Expensive — yes, but it will last for years. Pack contains 2 metres each of red and black (4 metres total). Cat W-4016
4 metre pack — $7.65 10 up $6.89

Spaghetti Pack

Contains 30 lengths of assorted colours and diameters (each length being more than 150mm), that totals over 4.5 metres of spaghetti. Cat W-4040. **$3.15**

Wire Wrapping Pack

This is a high quality insulated IC wrapping wire now in a convenient 5 metre pack — keep a couple of packs handy, you never know when you may need it!
Cat W-4018 **5 metre pack — $1.75 10 up $1.60**

Heatshrink Tubing Pack

Make professional terminations. Supplied as a pack of various lengths and sizes and includes (internal diameter) 1.5mm, 2.8mm, 6.3mm, 12.7mm and 19mm. On application of heat from a soldering iron or hair dryer will shink up to 50% of original size. Retains flexibility after being shrunk. Ideal as 'strain' cord on made up leads. Cat W-4060. **$3.45**

Individual Packs

2m x 3mm	Cat W-4065	**$3.75**
2m x 5mm	Cat W-4070	**$3.85**
2m x 7mm	Cat W-4075	**$3.95**
2m x 10mm	Cat W-4080	**$5.10**
2m x 13mm	Cat W-4085	**$5.50**

Tinned Copper Wire

High quality 25 gram roll of 22 SWG (approx. 20 B&S) tinned copper wire. Ideal for PC board links, hard wire jumper leads, chassis wiring, etc. 0.71mm x 8 metres to a roll. Cat W-3022
Approx. 8 metres — $3.35

Enamelled Winding Wire

Coil winding, motor rewinding, transformer building are no longer a problem with these handy coils of enambed wire. **NOTE:** where possible this wire will be supplied with "Bixaflux" insulation. Simply heat wire with a soldering iron and insulation will flow therefore requiring no stripping.

Gauge mm B&S		Gauge SWG	Length metres	Nett weight	Cat No.	Price
16	1.25	18	8m	100g	W-3116	$3.95
18	1.0	19	12m	100g	W-3118	$3.95
20	0.8	21	18m	100g	W-3120	$3.95
22	0.63	23	24m	100g	W-3122	$3.95
23	.71	25	6m	25g	W-3123	$2.75
24	0.5	25	9m	25g	W-3124	$3.05
26	0.4	27	20m	25g	W-3126	$3.05
30	0.25	33	50m	25g	W-3130	$3.05
32	0.2	36	170m	25g	W-3132	$3.05
36	.125	40	220m	25g	W-3136	$3.05

Fuse Wire

Great for keeping a card of in the fuse box — just in case! Card of 5, 10 and 15 amp fuse wire. Cat W-2180.
45¢

Fuses

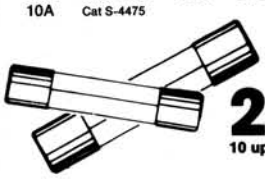
Wide range of fuses in both popular styles: M-205 mini (approx. 20 x 5mm) and the popular 3AG (approx. 32 x 6mm). Remember, the lower the current rating of the fuse you use, the greater the protection afforded. **All fuses 'fast blow' type for greatest protection.**

3AG TYPE

100mA	Cat S-4449	1.5A	Cat S-4465	15A	Cat S-4477
150mA	Cat S-4451	2A	Cat S-4467	20A	Cat S-4479
250mA	Cat S-4453	3A	Cat S-4469	25A	Cat S-4481
350mA	Cat S-4455	5A	Cat S-4471	30A	Cat S-4485
500mA	Cat S-4457	7.5A	Cat S-4473	35A	Cat S-4487
1A	Cat S-4461	10A	Cat S-4475		

M-205 TYPE

250mA	Cat S-4412
500mA	Cat S-4415
1A	Cat S-4421
2A	Cat S-4423
5A	Cat S-4425



25¢
10 up 32¢

Thermal Fuses

Handle 10A at 250V. Two type to choose from:
96°C operating Cat S-4490
139°C operating Cat S-4491
$1.45
10 up $1.30

Slo Blo Fuses

M-205 TYPE		3AG TYPE	
250mA	Cat S-4300	250mA	Cat S-4350
310mA	Cat S-4305	500mA	Cat S-4355
500mA	Cat S-4310	1 AMP	Cat S-4360
1 AMP	Cat S-4315	2 AMP	Cat S-4365
2 AMP	Cat S-4320	5 AMP	Cat S-4370

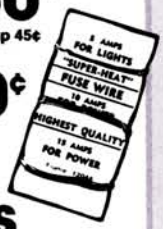
90¢
10 up 85¢

Auto Blade Fuses

5 AMP	Cat S-4505	20 AMP	Cat S-4520
7.5 AMP	Cat S-4507	25 AMP	Cat S-4525
10 AMP	Cat S-4510	30 AMP	Cat S-4530
15 AMP	Cat S-4515		

50¢
10 up 45¢

Handy Fuse Wire Pack



50¢

Great for keeping a card of fuse in the fuse box — just in case! Card of 5, 10 and 15 amp fuse wire. Cat W-3180

Fuse Holders

Chassis or PCB fuse holders

Easy to mount fuseholders in both popular sizes to suit 3AG or M205 fuses. Suit 3AG: Cat S-4257. Suit M-205: Cat S-4258

60¢ 10 up 55¢

Bayonet holders

$1.30
10 up $1.15

Chassis or panel mounting fuse holder, accepts standard 3AG fuse. 13mm mounting hole required. Suitable for low voltage. Cat S-4206

300V, 20 amp, M-205	300V, 20 amp, 3AG
App. No: 1375-15-01	App. No: 1375-16-01
Cat S-4210	Cat S-4208

95¢
10 up $3.55

In-line Holders (3AG)

Protection for car radios, stereo, transceivers, etc. All plastic casing, takes standard 3AG fuse with spring loaded contacts for positive connection. Complete with 600mm lead at no extra charge. Suitable for low voltage. Cat S-4277

90¢
10 up 90¢

3AG Fuse Clips (Pack of 8)

These fuse clips are ideal for mounting on PC boards providing flexibility and extremely good value. Cat H-1700

$1.35 pkt of 8

Mains

Blank Plate
$2.25

Same size as power point, but blank: ideal for gap-filling when you move points, switches, etc. Cat P-5535

Power Point Safety Tester
$7.55

Check newly installed power points, old homes, etc. Just plug in and light pattern reveals any faults. Cat P-5300

Standard Mounting Box $2.25

Mount power points, plates, etc on any surface including brick. Cat P-5531

Double Adaptor
$3.40

Standard 3 pin AC plug into 2 AC sockets enabling you to use 2 appliances on one outlet. Cat P-5440

4-Way Power Board
$14.95

Now one power point becomes four power points! Cat P-5613

Child-Proof Protector $2.95

AC sockets are normally placed in a position whereby young children have access. Stop their prying fingers by placing these plastic safety plugs into the outlet when not in use. Cat P-5420

The Button: Cheap Insurance!

It simply plugs into any power point — and protects everything on that circuit (ie on other power points) from damage caused by power line spikes. Computers, videos, hi-fi, TV's industrial and domestic machines... all can be protected by The Button. Cat P-5310

$36.75

- **Protects all three lines (active/neutral, active/earth and neutral/earth).**
- **Better than 10ns response time**
- **150 Joule rating (consumes no power except when a surge/spike is present).**
- **If you value your equipment, you'll value The Button even more — especially at our great value price!**

Shipping weight: g
Shipping size:50 x 100 x 165mm

NEW FOR 87

Automatic Night Light

Most kids hate the Boogey Man. They want the light left on: but who wants 60 watts or more burning all night? Plug in a night light (it fits any power point) and the problem's solved. It turns on when the room light is turned off at night — and turns off at sunrise. Also a great security idea, door minder, etc — and it only uses 15 watts! Cat P-5800

Shipping size: 55 x 215 x 130mm

$9.95

International Traveller's Mains Socket Adaptor

Having trouble with power points overseas? Here's the answer! A neat little adaptor that converts our 3-pin plug to virtually anything used in the world. One piece (so you won't lose bits). Use active/neutral pins only: does not connect earth. N.B. Does not adapt voltage!!! Cat P-5652

$24.95

For socket AND voltage adaptors see transformers page 62.

Extension Cord

3 core cable already fitted with plug and socket. 7.5A rating.
5m: Cat P-5595 **$6.25**
10m: Cat P-5600 **$9.45**

3 Pin Plug
$1.95

The standard Australian 3-pin AC plug — it has locked collar to hold cable tight and push fit cover to main body. Cat P-5400

3 Pin Piggy Back Plug
$3.95

Standard 3-pin plug with 3 pin socket as well — doubles up one power point. Cat P-5405

3 Pin Plug Side Entry
$2.25

Standard 3 pin AC plug with cable entry on the side — ideal for using with awkward equipment. Cat P-5402

Suppressor Plug
$7.35

Standard 3 pin AC plug, with capacitors fitted to reduce unwanted pops and crackles from audio equipment. Cat P-5425

Line Socket
$3.95

Ideal for making up extension cords — standard 3 pin AC socket. Cat P-5410

Surface Socket
$3.70

Standard 3 pin AC socket that can be screwed to boards or walls — ideal for workshop use. Cat P-5415

Double Power Point 10A Rating
$11.80

Replace old single outlets with a double: much more convenient. Cat P-5560

3 Pin IEC Line Plug
$4.15

Cat P-5580

As used in huge range of computer, amateur, entertainment equipment. Female line socket, standard IEC.

3 Pin IEC Chassis Socket
$3.15

Male Chassis socket, as used with above plug. 3 pin vertical IEC pattern. Cat P-5585

Architrave Switch
$4.95

Cat P-5570

Standard architrave switch — can be used to replace old, worn our units in your home. Positive action switching.

Line Switch
$6.25

High impact plastic moulded switch for insertion in any cord for remote on/off. Ideal for putting on/off switch in a floor standing lamp. Cat P-5515

Wall Board Clip $1.30

Can be mounted from the front. Mount power outlets, switch plates, on any cavity wall (other than brick) without the need for a mounting block. Cat P-5530

Light Socket
$2.50

Light socket for payonet mount lamps. Ideal replacement for light fittings. Comes in white plastic. Cat P-5510

Spotlight Holder $6.95

Edison Screw holder to suit PAR38 and other ES bulbs. Can be adjusted over 30° for exact positioning. (Suits coloured bulbs). Cat P-5620

Rotary Fan Blower

Getting a bit hot under the collar? Use one of these superb rotary fans: FANtastic for any device that needs forced air cooling. And they can be mounted to suck or blow.
Standard size: 1202mm square x 40mm deep. Cat Y-8500
Mini size: 80 x 80 x 25mm. Cat Y-8505
Shipping weight: 280g
Shipping size: 87 x 85 x 35mm

$29.95

NICAD CHARGERS

Car Battery Charger

This one will get you going — fast. With a high 4A charge rate it will completely charge a dead battery overnight; it could get you going in much less time. Complete with charge meter so you won't overcharge the battery. Top value! Cat M-9800

Shipping weight: 1.5kg
Shipping size: 200 x 95 x 150mm

$49.95

Charger Plug Pack

What a great idea! Two-part charger consists of plug-pack and seperate snap-on battery holder. Charges four penlight 'AA' NiCads easily and simply. Cat M-9520

Shipping weight: 250g
Shipping size: 180 x 100 x 50mm

$12.75

NiCad Charger

Most devices these days allow for an external charger to be plugged in to charge NiCads (usually a 2.5mm socket). This charger is ideal for all NiCad packs from 6 to 10 cells (ie 7.2 to 12 volts). Fully approved by Electrcity Authority. Cat M-9517

$17.50

Shipping weight: 290g
Shipping size: 255 x 170 x 60mm

Multi Current Arlec Charger

In-situ charger for all NiCad types (AAA to 9V) with 4 different charging currents and 6 different connector types to suit all device sockets. Handles up to 10 NiCads at one time. Cat M-9510

Multi-cell Charger

Charge up to 4 batteries at a time — AA, C, D, 6V or 9V. AND you can also charge AAA, and button cells too! But there's more: a test meter to check NiCad voltage under load — the only way to check your battery properly. Fully approved plug-pack included. Cat M-9518

Shipping size: 170 x 60 x 180mm

$34

Eveready NiCad Charger

Multi-size (AA, C, D or 9V) NiCad battery charger. Takes two 1.2V cells at a time or one 9V. Complete unit including plug-pack: nothing extra to buy. Cat M-9515

Shipping size: 80 x 130 x 65mm

$27.50

"D" Charger

Want to charge "D" NiCads? This one will handle two or four D size cells — even the heavy duty 4A types (the ones most chargers take forever doing!) Perfect for radio control cars, video cameras, etc — anything with a D size NiCad. Rated at 2x 3V, 400mA. Cat M-9400

Shipping size: 130 x 110 x 80mm

$39.95

Top Name EVEREADY...

Heavy duty

Eveready Red batteries in 5 types. How's your lantern battery?

Qty	Type	Cat No.	Price Each	Price 10 up
216	9V	S-3106	$1.85	$1.65
276P	9V	S-3210	$13.95	$8.75
2362	9V	S-3200	$12.95	$8.95
509	6V	S-3240	$4.55	$3.85
732	12V	S-3242	$24.95	$17.95
731	6V	S-3244	$12.95	
1015	AA	S-3100	60¢	
1035	C	S-3102	80¢	
1050	D	S-3104	95¢	

Energiser

Top brand name, top quality! Eveready Alkaline Energizers, recommended for extra heavy duty applications where normal batteries turn up their toes. All normal sizes available; always guaranteed fresh and ever ready!

Qty	Type	Cat No.	Price Each	Price 10 up
Pack 2	'AAA'	S-3278	$3.95	$3.55
Pack 2	'C'	S-3282	$4.20	$3.80
Pack 2	'D'	S-3284	$4.95	$4.45
1x216	(9V)	S-3286	$4.95	$4.45
1 x 529	(6V)	S-3245	$24.95	
Pack 4	'AA'	S-3287	$5.95	

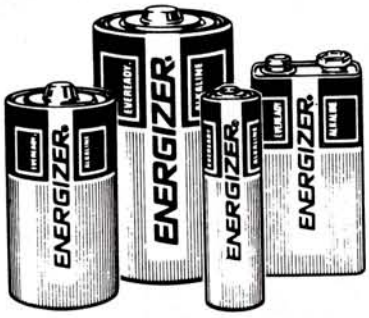
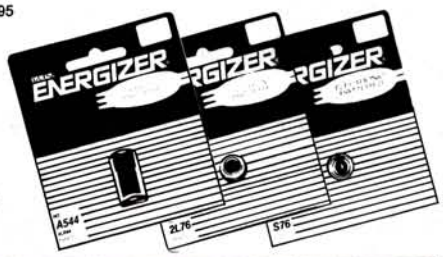


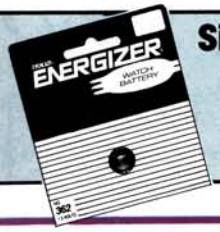
Photo Batteries

You'll find a great range of batteries for your camera equipment at DSE!

Type		Cat No.	Price
2L76BPI	3V	S-3060	$11.00
S76BPI		S-3080	$5.95
A544BPI	6V	S-3289	$7.95



Silver Oxide Batteries



Type	Cat No	Price
362	S-3050	$2.45
364	S-3051	$2.45
384	S-3052	$2.50
393	S-3053	$2.90
397	S-3054	$2.65

Gel Cells No leak, rechargeable

12V 2.6Ah

There's no need to mess about with motorcycle cells, etc. for your alarm system and emergency supplies. Gel cell supplies high outputs without the mess of lead-acid batteries. Even keep it trickle charged via alarm or other mains supply. Measures: 125 x 95 x 35mm. With quick charge connectors. Cat S-3320

$35

12V 1.2Ah

Mini Gel cell that's ideal for alarm applications... with enough oomph for other uses! Features colour-coded spade connectors. Measures 100 x 45 x 55mm. Cat S-3315

$29.95

12V 6.5Ah

Heavy-duty, leak proof cell that's ideal for all general purpose applications: alarms, motorcycles, etc. Cat S-3322

$55

Watch Batteries Equivalent Guide

Now you can get your watch/clock batteries at low cost!

		JIS	Eveready	Mallory	Hi Watt
Cat S-3292	$2.95	G10	389	10L12	S-120
Cat S-3293	$4.50	G13	S76 303 357	10L14	S-200
Cat S-3295	$3.10	G12	386 S41	10L24	S-150
Cat S-3296	$2.75	G8	391	10L130	
Cat S-3299	$1.50	G3	392 S312	10L125	S3-140

Calculator Batteries

Lithium calculator batteries now in the three most popular sizes. Suit a large range of scientific and statistical calculators. Blister packed for freshness.

E-CR2025	Cat S-3330	$3.75
E-CR2032	Cat S-3331	$3.75
E-CR2016	Cat S-3332	$3.75

Alarm Batteries

Quality replacement battery for your L-5096 12V alarm

$1.95 Cat S-3335

NICADS — Extra Value Packs

Save with NiCad battery packs! Long life, high power batteries for all you portable power needs.

Qty	Type	Cat No.	Price
4 X AA	500mAh	S-3150	$16.95
2 X C	1.2Ah	S-3152	$15.95
2 X D	1.2Ah	S-3154	$16.50
4 X AA	600mAh	S-3160	$19.95
2 X C	2.0Ah	S-3162	$24.95
2 X D	4.0Ah	S-3164	$27.95

Extra Heavy Duty NiCads

For long life, high power and reliability. DSE carries an extensive range of heavy duty NiCads and it's extending all the time. Whatever your battery needs — drop into your nearest DSE store and save!

Type	Cat No.	Price
C 2.0Ah	S-3311	$14.50
AA 600mAh	S-3312	$5.50
D 4.0Ah	S-3310	$16.50
Sub C Fast Charge	S-3324	$6.50

7.2V Racing Pack NiCads

$69.95

Powerful, long-life 7.2V packs designed for Tamiya and other remote control cars. Totally reliable, the ideal choice for lasting off-track run and serious competition staying power! Cat S-3326

NiCad Batteries

'AAA' size

At last, you can get 'AAA' rechargeables! Now all those toys, calculators, etc using this popular size can benefit from the much lower overall cost of NiCads. 1.2 volts, 180mAh rating. Cat S-3305

$4.50

10 up $3.85

'C' size

Use to replace standard 'C' size batteries. Higher capacity (1.2Ah) for longer use. Single cell. Cat S-3301

$8.95

10 up $7.15

'AA' (penlight) size

Popular NiCad cells. Can be recharged up to 200 times! Rated at a massive 500mAh this battery is suitable for almost all devices using standard AA batteries. 1.2 volts Cat S-3300

$4.25

10 up $3.15

'D' size

Also rated at 1.2Ah, but has same physical size as standard 'D' battery. Used in models, toys, etc. Cat S-3303

$9.95

10 up $8.15

'216' size

At last! A true 9V NiCad in the popular '216' (transistor radio) size. Don't be fooled by most models: they're really 7.2V! This one gives full output! 100mAH rating. Cat S-3308

$22

10 up $17.95

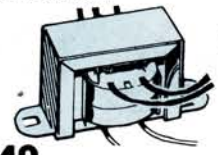
Transformers

DSE2824

Primary: 240V, 50Hz
Secondary voltage: 3.5-0-3.5V & 7.5V
Secondary current: 250mA & 10mA
Terminations: Flying leads

Shipping weight: 116g
Shipping size: 30 x 35 x 15mm

Cat M-2824



$4.60

10 up $4.15

DSE2840

Primary: 240V, 50Hz
Secondary voltage: 4.5-0-4.5V
Secondary current: 150mA
Terminations: Flying leads

10 up $4.45

$4.95

Cat M-2840

Shipping weight: 193g
Shipping size: 45x 75 x 50mm

DSE2851

Primary: 240V, 50Hz
Secondary voltage: 6.3-0-6.3V
Secondary current: 150mA
Terminations: Flying leads

Cat M-2851

ENERGY AUTHORITY CERT. NO. CS2204N

$5.50

10 up $4.70

Shipping weight: 193g
Shipping size: 45 x 75 x 50mm

DSE2155

Primary: 240V, 50Hz
Secondary voltage: 6.3, 7.5, 8.5, 9.5, 12 & 15V
Secondary current: 1 amp
Terminations: Flying leads

Shipping weight: 491g
Shipping size: 100 x 60 x 50mm

ENERGY AUTHORITY CERT. NO. CS2078N

$7.95

Cat M-2155 **10 up $6.80**

DSE6672

Primary: 240V AC
Tapped secondary voltages: 15, 17.5, 20, 24, 27.5 & 30V
Secondary current: 1 amp
Terminations: Solder lugs

Cat M-6672

ENERGY AUTHORITY CERT. NO. CS2205N

$11.95

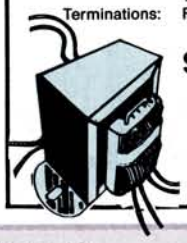
10 up $10.95

Shipping weight: 1.63kg
Shipping size: 100 x 65 x 65mm

DSE1200

Primary: 240V
Secondary voltage: 40V @ 10mA
19V @ 200mA
11.2V @ 450mA
Terminations: Flying leads

Cat M-1200



$10.45

DSE0153

Primary: 240V AC
Secondary voltage: 35-0-35V
Secondary current: 2.5A
Terminations: Flying leads

Cat M-0153

Shipping weight: 3.5kg
Shipping size: 100 x 80 x 80mm

$47.25

DSE1990

Primary: 240V
Secondary voltage: 18V
Secondary current: 2.2A
Terminations: Flying leads

Cat M-1990

$15.75

10 up $11.35

Shipping weight: 1.234g
Shipping size: 100 x 90 x 60mm

DSE0144

Primary: 240V AC
Secondary: 28-0-28V
Secondary current: 2A

Cat M-0144

$29.50

Shipping weight: 2.4kg
Shipping size: 95 x 80 x 70mm

DSE2000

Primary: 240V, AC
Secondary: 18 volts @ 6A
Terminations: Flying leads

Cat M-2000

$29.50

10 up $28.35

Shipping weight: 2.5kg
Shipping size: 80 x 95 x 65mm

DSE2010

Massive 18 volts at 14 amps continuous... ideal for high power rating power supplies, linear amplifiers, etc, etc. Compare our price with what you've had to pay in the past... What a bargain!

Cat M-2010

- **Suits 13.8V 25A pk supplies**
- **As used in our VK powermaster kit**

$63.50

DSE1600

Now the advantages of toroidals at a low DSE price. The perfect transformer for amplifiers: low flux leakage, less hum, low profile.

Cat M-1600

Primary: 240V AC
Secondary voltages: 45-0-45V
Secondary current: 3.3 amps
2 x 15V @ 200mA

Shipping weight: 2.55kg
Shipping size: 120 x 120 x 60mm

$56.95

Energy Authority fully approved

Low Cost Low Profile

Each transformer has two separate secondary windings which can be wired in series or in parallel. They are fitted with round pin terminations and include connectors. 240V AC primary.

All one price!

$24.75 each

10 up $22.50 each

PL12/20VA	2 x 6V@1.7A — 6V@3.4A — 12V@1.7A	M-3596	W. 660g	S. 110 x 50 x 65mm
PL15/20VA	2 x 7.5V@1.3A — 7.5V@2.6A — 15V@1.3A	M-3597	W. 640g	S. 110 x 50 x 65mm
PL18/20VA	2 x 9V@1.1A — 9V@2.2A — 18V@1.1A	M-3598	W. 650g	S. 110 x 50 x 65mm
PL24/20VA	2 x 12V@.85A — 12V@1.7A — 24V@.85A	M-3599	W. 660g	S. 110 x 50 x 65mm
PL30/20VA	2 x 15V@.69A — 15V@1.3A — 30V@.69A	M-3600	W. 670g	S. 110 x 50 x 65mm
PL40/20VA	2 x 20V@.51A — 20V@1A — 40V@.51A	M-3601	W. 660g	S. 110 x 50 x 65mm

PCB Mounting Transformers

Mounts directly onto the PCB which makes wiring incredibly simple. Two separate secondary wirings — can be series or parallel connected. Gives 24 volts at 0.21 amp in series or 12 volts at 0.42 amp in parallel. Great for hobbyists! Cat M-3590

$15.95

10 up $14.36

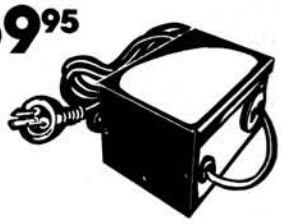
115V Stepdown Transformer

For US small appliances

Input 240V AC and secondary voltage 115V AC @ 60VA with 7% regulation. The unit is fully encased and has fuse protection for the output. US style socket outlet. Weight 2.9kg. Cat M-1158

Shipping weight: 2.5kg
Shipping size: 150 x 170 x 85mm

$69.95

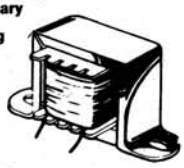


Audio Line Transformer

This transformer has been engineered to cover more than 95% of all PA — BGM applications. Suited to all speaker impedances. Multitapped for use with 100V or 70V lines. 52mm mounting centres. Cat M-1100

- **Multi-purpose matching transformer**
- **4 watts rms rating**
- **2, 4, 8, 16 ohms secondary**
- **2.5K, 5K ohms primary**

Shipping weight: 172g
Shipping size: 65 x 40 x 40mm



$6.25

10 up $5.65

600 ohm/600 ohm Isolation Transformer

Intended for modems and other telephone line applications, isolates line from device to comply with Telecom regulations. Fully approved by Telecom Engineering branch. Cat M-1210

$13.15

Transistor Audio Transformers

Ideal for transistor radio replacements, good for transistor projects including oscillator circuits, requiring coupling transformers. Miniature size.

Model M-0222 — • Primary 3k ohm • Secondary 3k ohm • Use — coupling • Iron Core • Size 17(l) x 15.5(w) x 15(h)mm. Cat M-0222

$1.40

Model M-0216 — • Primary 1k ohm • Secondary 8 ohm • Use — 350mW O/P • Ferrite Core • Size 15(l) x 14(w) x 11.5(h)mm. Cat M-0216

$1.40

1650W 240/110V Adaptor for resistive loads

Intended for US/Japanese/continental/etc (110V) visitors to Australia/NZ/Sth Pacific/Gt Britain/etc (220/240V) area. Not only adapts virtually all socket configurations but adapts 240V to 110V. Suits any non-electronic device (hair driers, irons, bottle warmers, etc (up to 1650W). Cat P-5653

Shipping weight: 314g
Shipping size: 190 x 65 x 85mm

$62.95

65 Watt "Electronic" 240/110V Adaptor

intended for electronic items (radios, cassettes, computers, etc) up to 65W maximum. Cat P-5654

$62.95

Power Supplies

12V @ 1.5A Regulated

Just right for CB's, car radio/stereos, small amateur transceivers (hand-helds especially), etc. 12 volts DC regulated with terminals for easy connection. Makes a great service supply, too. Cat M-9545

$69.95

Shipping weight: 1.5kg
Shipping size: 180 x 170 x 90mm

13.8V/4A Peak

Need more oomph? Try this one: the high power Panther. For the 2m or small HF amateur transceiver, a supply for 'auto' equipment, even a bench supply for service work — you'll go a long way to find a better supply. With a 3 amp continuous (or 4A continuous at 75% duty cycle!) and a huge 8 amp instantaneous peak rating, it's ideal for those higher current and higher peak demand applications that the above supply can't manage. Cat M-9547

- **Heavily heatsunk for maximum output**
- **Colour coded output terminals**
- **LED indicator also shows overload or short circuit**

$99

Shipping weight: 2.25kg
Shipping size: 200 x 145 x 115mm

3-6-9-12V DC @ 1 amp

Invaluable around the home or workshop. It will give a maximum of 1 amp at 3, 6, 9 and 12 volts DC. Simply plugs into 240V AC power socket — DC connections via screw terminals on front of unit. Ideal for use with alarm systems, intercoms, etc. Cat M-9530

- **Overload protection**
- **Simple screw terminal connection**
- **High 1A output**

$29.95

Shipping weight: 7.25kg
Shipping size: 200 x 90 x 65mm

5-15V Variable 2A Power Supply

The perfect work bench companion! Continuously variable output from 5 to 15V DC at 2A continuous, 4A peak. Ideal for the hobbyist, handyman and technician. Fully metered, showing either voltage or output current (switchable). Low ripple: <20mV at 2A (or <200mV at 4A). Cat M-9549

- **A 'must' for the hobbyist work bench**
- **Up to 2 amps continous supply**
- **Input: 240V 50Hz**
- **Output: 5-15V DC 2A**
- **Regulated output**
- **Protected**

$99

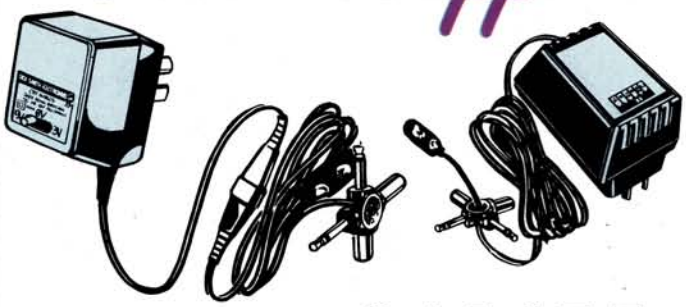
Shipping weight: 1.877kg
Shipping size: 195 x 95 x 160mm

Protect your computer system with a Jabel Line Filter

Spikes, spurgels and sundry other garbage on the mains can spell disaster for your poor computer. Even separate sections of the computer can cause mains hash (eg printer). This deluxe filter virtually eliminates most mains-borne garbage giving your computer a clean line of supply with which to operate. If you're having 'crash' problems with your computer — could be this filter will fix it! Rated at 240 volts, 2 amps. Fully approved by the Energy Authority. Cat M-9850

$149

Shipping weight: 1.25kg
Shipping size: 220 x 115 x 75mm



3-6-9V DC @ 200mA

This battery eliminator is one of the most superb buys in this catalogue — many thousands have been purchased by people who know how to save money! It is a small plug-in unit that has three output voltages of 3, 6 and 9 volts DC at 200 milliamps — possibly the three most used voltages on battery powered equipment. It is ideal for many battery driven items. Cat M-9525

Shipping weight: 305g
Shipping size: 255 x 165 x 50mm

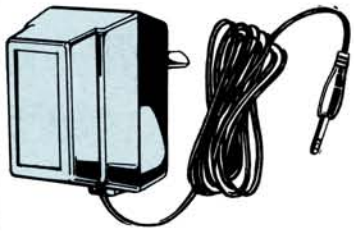
$17.50

3-4.5-6-7.5-9-12V @ 300mA

An extremely versatile supply ready for just about any application. Switchable output gives 6 different voltages ranging from 3V to 12V, at up to 300mA. Cat M-9526

$18.95

Shipping weight: 300g
Shipping size: 120 x 92 x 50mm

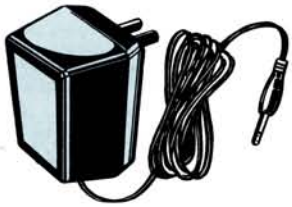


9V DC @ 200mA

For all equipment requiring 9V DC at a 9V transistor type battery or many other static hobby models that require 9V. Eliminator modules simply plugs into a 240V AC power socket. Cat M-9514

$11.95

Shipping weight: 300g
Shipping size: 120 x 92 x 50mm

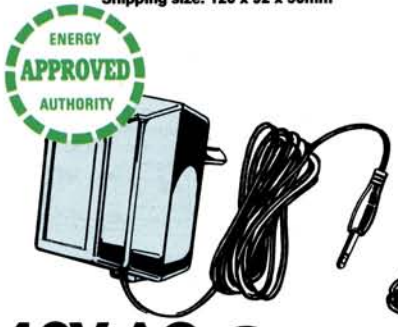


9V DC @ 600mA

Extra high power — ideal for 9 volt equipment which needs more than the low power-plug packs can provide (such as cassette recorders, etc). Cat M-9560

Shipping weight: 350g
Shipping size: 100 x 50 x 50mm

$27.50



12V AC @ 500mA

Ideal power supply for projects that require 12V AC at 500mA. Because the whole of the plug-pack is a transformer, you get a much higher current rating than other plug-packs. Rectifiers and filter components can be placed inside the project itself. Cat M-9555

Shipping weight: 300g
Shipping size: 120 x 92 x 50mm

$19.95

AC Supply 16V 900mA

The biggest problem with most projects is fitting in the transformer! This one obviates the problem — keep the supply components inside, but the plug-pack hangs on the power point! With a very healthy 16V at 900mA, it's perfect for 12 volt DC supplies. Energy authority approved. Cat M-9567

Shipping weight: 656g
Shipping size: 105 x 65 x 95mm

$14.95

PCB's

Datak
Photo-Etch PCB Kit ER-4

It's so simple! Our Photo-Etch kit contains all the chemicals necessary to create professional circuit boards. Use the kit to generate your own 1:1 artwork or use magazine art, then use the patented Pos-Neg process to make a photo negative, sensitize and expose a blank copper board, then develop and etch it. The magazine page is not destroyed in this process. No darkroom or camera is required. All necessary materials are included: steel 125 x 150mm print frame, Pos-Neg film, film processing pack, yellow filter, 117ml negative-acting etch resist, 483ml resist developer, blank copper circuit boards, dry concentrated etchant 1:1 resist patterns and tapes, and complete instructions. NOTE: You will need to obtain trays and exposure light. Cat N-5700 **$104.95**

Want to make larger PCBs?

If your work is larger than 125 x 150mm, you'll need the following accessories:

Contact Printing Frame ER-10

Large format (225 x 300mm) spring-loaded steel printing frame will accept 210 x 275mm artwork originals, protocopy film and sensitized printed circuit boards. Comes complete with glass, backboard, yellow Pos-Neg filter and instruction manual. Cat N-5710 **$35.65**

Yellow Pos-Neg Filter ER-17

Needed for all Pos-Negexposure work. Take care — this filter can be damaged by many industrial solvents and ER-8 developer. Keep free of dust and fingerprints. Cat N-5711 **$10.45**

Negative Photo Resist ER-71

A liquid cinnimate resist in bottle with pump sprayer. The coated board is exposed to UV through a negative of the circuit pattern, then developed in Cat N-5905. Unexposed parts of the resist coat are dissolved while the exposed resist pattern stays to protect the copper when etched. One bottle contains 4000 sq mm. 117ml bottle. Cat N-5907 **$18.85**

Negative Resist Developer ER-8

A solvent blend that will develop Cat N-5907 and other negative acting photo resist. Resist areas that are not hardened by UV light are dissovlved away. Hardened areas are unaffected. Do not use with positive acting resists. 483ml. Cat N-5905 **$4.95**

Ball Stylus/ Burnisher

DATAK dry transfers will transfer with an ordinary ball point pen and may be burnished with a thumbnail. Buy you'll do a better job and finish faster with a well-designed tool. This metal ball applicator will transfer characters from .2mm up to about 6mm. The 2mm round polished tip fits into tight corners on PC's and panels and prevents letter distortion if your use excessive force. The other end has a 9mm flat flexible burnisher. Cat N-5715

$10.45

PC Pin Connectors

Fits the H-5590 board pins. Has many uses. Cat H-5592

Pkt 25 **$2.25**

PC Pins

These pins push through 2.54mm pitch matrix board or Veroboard to form solder terminals on both sides of the board. Cat N-5590

Pkt 50 pins **$2.60**

Matrix Board

Tough phenolic board with punched holes. Ideal for prototypes, bread boards, science or hobby projects. **2.54mm spacing x 75mm x 76mm.** Cat H-5310 **$2.30**

Now, you can modify or repair PCBs with Circuit Fix CF-1

The Circuit-Fix system makes circuit repairs or last minute circuit changes fast and simple. It is designed primarily for prototype and experimental boards. The heart of the system is a spring-loaded steel clamp and cutting guide (pat. appl. for) which lets you cut a precise width copper foil trace with no difficulty. Here's how easy it is to modify a circuit board. Cut a copper trace with the clamp-guide and collet knife. Drill holes for the component leads. Position and burnish down the new copper donuts on the board. Orient the foil traces properly and trim to length with the knife. Complete the job by inserting the component leads through the donuts, then flowing solder over the donuts and all overlapped trace connections.

Circuit-Fix Kit

The complete kit contains the spring-loaded clamp and guide, collet knife and blade. 154 assorted copper donuts (see Donut refill set below the sizes). 32 square inches of copper foil and an instruction booklet. Cat N-5900 **$62.95**

Clear Acrylic Sheet

Ideal for using over panels, etc — makes your project look really professional. Or use for inspection panels, protection devices, etc. 3mm thick, size is a very useful 150mm long x 50mm wide. Cat H-5450 **$1.45**

Positive/Negative Film Refills

This polyester base film is dimensionally stable and is capable of making a negative or a positive from either opaque or translucent artwork in one step. No intermediate film is required. Exposing is done through a yellow filter to obtain a positive image from a positive original. Negatives are prepared with a yellow, then a white light exposure. One film surface is matte. It will accept retouching with photo opaque, pencil, india ink or dry transfers.

ER-9 2 sheets 8 12" x 11". Cat N-5709 **$18.85**

ER-5 6 sheets 5" x 6" Cat N-5705 **$18.85**

Solder won't stick?

Tinnit Electroless Bright Tin Plate ER-18

Tinnit is designed to plate bare copper circuit boards to enhance solderability. It has also been used to plate edge card connector fingers on prototypes when a low, stable contact resistance is needed, but gold is not available or desired. One pint of Tinnit will plate up to 1500 sq mm of copper with approximately .001mm of bright tin. Plating takes 10 minutes in a fresh solution. Adhesion and solderability are excellent. No electricity is required. Tinnit has been successfully used to plate brass, bronze, iron and some carbon steels. the material is supplied as a dry mixture with an indefinite shelf life. When mixed with water, the solution has a life of approximately two months. You need add no acid for other materials to this solution. Tinnit contains all plating chemicals plus surfactants and cleaners to insure a perfect plate. 1 pint. Cat N-5730 **$12.55**

Ferric Chloride Etchant

Now supplied in a great new no-spill 500ml bottle of working solution (Ferric Chloride). No more fiddling around with beads and hot water. Cat H-5652 **$5.40**

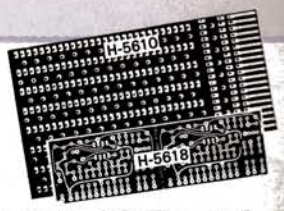
Blank Printed Circuit Boards

Pre-cut high quality PC board with permanently bonded copper on one side — available in bakelite or heavy duty fibreglass.

	Cat No.	Each
Bakelite: 150 x 74mm	H-5500	$2.05
Bakelite 150 x 150mm	H-5505	$3.65
Bakelite: 300 x 300mm	H-5510	$11.55
Fibreglass: 150 x 75mm	H-5540	$2.65
Fibreglass: 150 x 150mm	H-5545	$4.95
Fibreglass: 300 x 300mm	H-5550	$10.45

Aluminium Sheet

Blank aluminium sheet ideal for making up front panels, folding into small boxes, or general hobbyist work. 18 gauge, 305 x 305mm. Cat H-2560 **$4.60**



Plug-in IC Board

Fantastic plug-in printed circuit board, 2.54mm pin spacing to accept directly up to 14 x 14 pin or 16 pin IC's or up to 20 'Mini-Dip' IC's. Lands are silver plated and a 24 way 2.54mm plug is etched into one end of the board so that it can be used with a 24 way edge connector. An excellent high quality board for the hobbyist and engineer. **2.54mm spacing x 60(w) x 100(l)mm.** Cat H-5610 **$2.65**

Op-Amp Experimenters PCB

Another very useful design for the experiment: suits 741 type op-amps, with provision made for just about all circuit variations: input, feedback, compensation and power supply components are all catered for. Ideal for one offs. Dual circuits. Cat H-5618 **$5.75**

Printed Mounting Strip

A handy 47 way mounting strip for resistors, capacitors and other components. Packs them in neatly. Terminals are numbered for easy circuit identification. Cat H-6610 **$2.25**

Versa Strip Board

As H-5612 board, but with pre-cut short traces making it ideal for multi IC work. Plated strips. Packed in a plastic sheath for protection. **2.54mm spacing x 76mm x 153mm.** Cat H-5616 **$4.95**

Printed Stripboards

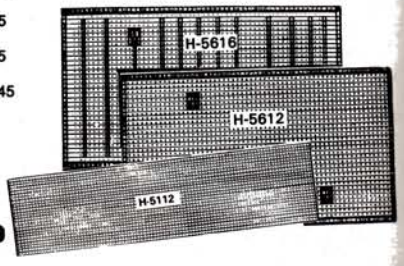
DSE specifications... plated strips alpha-numeric grid

The most verstile board of the lot! Etched copper strips are predrilled and plated ready for solder. The alpha numeric grid facilities positive pin identification.

2.54mm spacing x 76mm x 153mm. Cat H-5612 **$4.15**

2.54mm spacing x 76mm x 76mm Cat H-5614 **$2.25**

A quality plated copper strip board similar to the English Veroboard. Continuous predrilled stripping on a high grade insulator. Packed in plastic sheath to assure you an untarnished, easy-to-solder surface. **2.54mm spacing x 95mm x 304mm.** Cat H-5112 **$6.80**



Marine Radio

Don't get caught out!

With new boating regulations many states now require that ALL boats going off-shore carry either 2-way communications or Epirb! Other states will soon follow suit. Get your approved communications devices from DSE — you're bound to pay less!

DSE – Keeping you in touch, when you're out at sea!

'Sea Simba' 55 Channel Marine

Shipping weight: 1.5kg
Shipping size: 265 x 250 x 85mm

A truly advanced 12 Channel (10 fitted) marine transceiver! Advanced circuitry, advanced design, advanced ease of operation. The Sea Simba won't leave you floundering! Sea Simba... sounds like it'll get up and dance. With these features nothing would be a surprise! For all normal boat-to-boat and boat-to-shore communications. You get all 27MHz marine channels, PTT mic, large LED channel indicator, ANL switch, PA, LED level indicators, squelch control, mic gain control, RF gain control, ext. and PA jacks, wiring harness and in-line fuse and mounting bracket with special design quick release knobs. Cat D-1718

Specifications:
Power Output: 4 watts max.
Frequency: 10 channels in the 27MHz band
Audio output: 2.5W max. @ 8 ohms
Squelch range: 1mV
Antenna: Nominal 50 ohms impedance
Dimensions: 146 x 190 x 51mm

$139.95

Beats a car phone by a Nautical mile!

$469

Shipping weight: 2.1kg
Shipping size: 360 x 240 x 125mm

The ultimate in marine communications — the MC 480 from Uniden. The 55 Channel VHF Marine Transceiver which allows you to link up to the normal telephone line while you're at sea. Just imagine — you can call home and ask for the chicken to be put on. The heavy duty plastic case is the ideal corrosion inhibitor. Beautifully designed with style and simplicity in mind. Incorporating the full 55 marine channels, PTT mic., 1W/25W selector, channel 16 emergency selector and indicator, bright LED digital channel readout, dim control, squelch, quick release mounting bracket and all mounting hardware! Cat D-1400

Specifications:
Channels: 55
Antenna impedance: 50 ohms
Microphone: 600 ohms dynamic
Power output: 25 or 1 watt (switchable)
Frequency range: 156-158MHz transmit
156-163 receive

Uniden Barracuda AM/ SSB Marine Transceiver

$299

Shipping weight: 2.26kg
Shipping size: 365 x 225 x 100mm

Trust Uniden and DSE to bring you state-of-the-art equipment at this fantastic low price! The Barracuda gives you 10 AM and 10 USB channels including the one-touch Emergency Channel 88 switch. Sensible design means that all controls are conveniently placed and easy to use. With PTT mic., large positive grip channel selector, Ch88/TX/RX indicator, signal/power meter, switchable PA, clarifier, gain control and more! A special feature of this amazing transceiver is the Dual Watch Button which gives emergency channel 88 priority over main channel!

Specifications:
Power Output: AM — 4 watts
SSB — 12 watts, P.E.P.
PA — 3 watts
Frequency range: 27.680-27.980MHz
Output impedance: 52 ohms unbalanced
Frequency response: 350-2500Hz

Yes, the Barracuda comes complete with all mounting hardware, PTT mic and full instructions. Cat D-1714

Marine Radio

Safety's in the palm of your hand with a DSE Hand-Held! Communication could save a life!

5W 6 Channel Transceiver

Don't leave shore without one!

A top quality high power hand-held from Uniden: the world's largest manfacturer of 27MHz equipment. All the power and performance of a fixed transceiver — in a transceiver you can take home with you. (It won't be pinched from your boat!)Maximum legal power, and all 6 channels fitted with 27MHz marine frequencies. Nothing more to buy! And you can connect a boat antenna and power for maximum performance if your wish: external antenna and power sockets fitted. DOC Approval No: 242M0172. Also approved for CB use (DOC Approval No. 249A022 with appropriate CB crystals fitted).
Cat D-1125

$199

3W 3 Channel Transceiver

At this price, you can't afford to be without one!

Medium power, medium price — but top performer! A new model, exclusive to Dick Smith Electronics, with a multitude of uses. Approved for CB use, comes with one CB channel fitted. Other channels left open for your choices. Great for fishermen, too: keep in touch (just in case!). Comes with one CB channel fitted.
Cat D-1106
DOC Approval No: 249A072

$129

1W 3 Channel Safety Transceiver

Our most popular hand-held

Nice and small for the bushwalker, rock-hopper, fisherman or hiker to keep in the back-pack: just in case! Fitted with bushwalking frequency of 27.620, two other channels left open for your choice of crystals (take about ten seconds to fit!) Not normally used on marine band, but in an emergency you can use anything! Keep one in the tackle box!
Cat D-1102
DOC Approval No: 242H0108

$89.95

NEW FOR 87

For safety sake

5W 6 Channel Marine Transceiver

At this low price anyone on the water can have the security of a quality transceiver! This high power hand-held has all the power and performance of a fixed model. With maximum legal power and fitted with 27MHz marine frequencies it's ideal for the small boat owner and weekend fisherman. Cat D-1126

Features:
- 27.880MHz crystals
- On/Off/Volume, channel select, PTT, squelch switches
- External power jack
- Huge 5 watt power
- Signal/battery meter
- High/Low power switch
- High/Low mic. gain

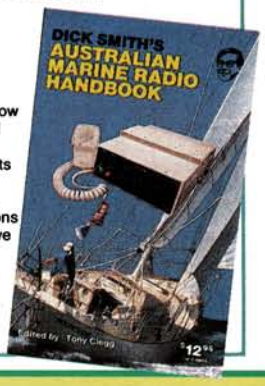
$149

Shipping weight: 1kg
Shipping size: 320 x 125 x 100mm

Australian Marine Radio Handbook

This book could save a life — yours!

Everything you need to know about selecting, fitting and using marine radio. Complete with maps, charts and times of monitoring stations, OTC's Seaphone service, rescue organisations and much more. If you have a boat of any type, you should own a copy of this book! Cat B-9604



$1.95

Beat Corrosion!!

Give corrosion a bunch-a-fives; before it's too late! The amazing Cortec 101 corrosion inhibitor protects your valuable equipment. Simply slip the Cortec 101 into your electronic devices and an invisible vapour beats the hell outa those nasty little rust bugs. Lasts up to two years!!
Cat D-1300

NEW FOR 87

$6.25

Xtals for Hand-Helds

Standard transmit/receive pairs for the popular 27MHz marine channels. Simply plug into the hand-held (also suit older style in-dash transceivers).

27.550	D-6055	27.910	D-6091
27.620	D-6062	27.940	D-6094
27.860	D-6086	27.960	D-6096
27.880	D-6088	27.980	D-6098
27.900	D-6090		

$9.50 Pair

Here it is: Yaesu's new

FT767GX

All mode all band all singing all dancing all all!

What are you looking for in an amateur transceiver? The absolute very latest technology that is available? Every possible feature to drag that signal in where others cannot... or to make sure yours is the one heard through the QRM? How about all modes on all amateur bands? Or a continuous coverage triple conversion superhet receiver from DC to light (well, almost)? An automatic antenna tuner built in? Die-cast aluminium & ducted cooling giving 30 minutes output at full power? The incredible new FT767GX is all this and more — much, much more. It's the most complete amateur station available anywhere. In any brand. At any price. **Because the FT767 goes where others cannot. As well as the complete HF transceiver, it is also the complete VHF & UHF transceiver — the 767 covers every amateur band from 160 metres to 70 centimetres!!!** That's right — 1.8 to 440MHz in one transceiver. Crossbanding? Now you're really talking — to the world. And because it's the new generation of transceivers, it's made to suit packet. Yes, the FT767GX is the most expensive transceiver Yaesu have ever produced. But once you've seen it, you'll agree — it's worth every cent!
Cat D-2935

Brief Specifications:
Receiver: 100kHz to 29.9999MHz, 50 to 53.999, 144 to 147.999, 430 to 439.999MHz*
Transmitter: All WARC bands to 30MHz, VHF & UHF as above
Emission: J3E, A1A, J1B, A3E, F3E
Output: 100W (AM 25W carrier) on HF, 10W (2.5W AM) VHF & UHF
Antenna Imp: 20-100 ohms HF (nominal 50 ohms), 50 ohms UHF/VHF
Harmonics: <-50dB HF, <-60dB VHF/UHF
Carrier Suppression (SSB): <-40dB.
3rd order IMD (vs single tone, 100WPEP, 14MHz: <-35dB
Image and IF rejection: <70dB
Sensitivity: 0.25uV (SSB/CW/FSK, 1.5-450MHz, 10dB)

$4995

NOTHING MORE TO BUY!!!

The amazing Yaesu FT767GX comes absolutely complete: mains power supply inbuilt, auto antenna tuner inbuilt, VHF and UHF modules inbuilt. All you do is connect your piece of wet string and you're on the air!

NOTE: Limited stocks held of transceiver, not in all stores. Stores may need to order one for you if stock is not available locally. * 440 to 450MHz version available on indent, special order only. Delivery time 8-10 weeks.

Oscar, JO12, RS9, RS10 — you'll get the lot!

FT 726R VHF/UHF all mode tribander

The most sensational close encounter of any kind! Now with more satellites in orbit, we're constantly being asked for a 'true' satellite transceiver. So here it is! And what a performer.
You can enjoy all the action on the 2m band PLUS supplement it by adding up to two modules of your choice: select 70cm or 6m modules. The choice is completely up to you.
But that's not all. A satellite IF unit can be installed giving full duplex crossbanding with independant tuning, mode selection and metering for the band in use. By adding good antennas you have one of the finest amateur satellite earth stations on the planet. (see our Yagi antenna kits) Cat D-2950

- **All modes on all three VHF/UHF bands -6m 2m 70cm (with all modules installed.)**
- **Full duplex crossbanding with satellite unit installed.**
- **10W output on each band**
- **Repeater splits for all bands easily programmed into memory.**
- **Dual synthesised VFO's tuning 20Hz/step**
- **Speech processor for SSB**
- **240V AC operated (12V DC with optional power cable).**

COMPLETE WITH 2M MODULE

$2499

And the add-on modules:

6m Module:
Full 50 - 53.9998MHz coverage with 0.15uV receiver sensitivity (SSB, 10dB S+N/N)
Cat D-2951
$699

70cm Module:
GaAs FET receiver front end, operates over full 430-440MHz band with 0.15uV sesitivity (SSB. 12dB SINAD).
Cat D-2952
$799

Satellite Module:
Full duplex crossbanding is so easy-and this module does it all for you!
Cat D-2953
$359

YAESU'S MASTERPIECE:

FT757GX "The Radio"

...'without modesty, the best transceiver'
That's what Amateur Radio Action magazine said about the FT757GX when it was released.

When you look at the outstanding specifications of the FT757GX, then look at its size, you'll wonder how Yaesu managed to pack it all into the case. Here's what it offers you:

• All mode AND all WARC HF bands built in (nothing extra to buy). • 100 watts continuous output power (SSB/CW/FM) • Twin VFO's, 8 memories, with complete control • Triple conversion receiver covering full 0.5 to 30MHz • 0.25uV sensitivity (SSB) • Yaesu's famous IF shift/width passband control system • Duct flow forced air cooling • 4-bit microprocessor built-in • IAMBIC electronic keyer circuit built in

SPECIFICATIONS:
Coverage: TX 10, 12, 15, 17, 20, 30, 40, 80 & 160 metre bands; RX 0.5 - 30 MHz
Tuning steps: 10Hz & 500kHz
Emission types: LSB, USB, CW, AM & FM
Carrier Suppression: better than 40dB below peak o/p
Spurious Suppression: better than 50dB below peak o/p
3rd Order IM Distortion: better than - 35dB below peak o/p (14MHz, 100W)
Rx sensitivity: (1.5-30MHz; 10dB S+ N/N) SSB, CW-W, FSK-0.25uV CW-N 0.16uV AM 1.0uV FM 0.6uV for 12dB Sinad)
Image Rejection: Better than 70dB

Cat D-2940

Feature for feature, it more than stacks up against the opposition. And it compares more than favourably on price, too. Add Dick Smith Electronics' commitment to fully back every product we sell (a commitment you won't find elsewhere!), you have a winner with the FT757GX.

$1799

Heavy Duty Power Supply

The FP757HD. HD means heavy duty — just what the avid dx'er wants. A supply that won't get hot under the collar when you have those long qso's. Plugs straight into the 757, also suitable for other 12V transceivers. Rated at a superb 13.8V, 20A continuous (30 mins tx, 30 mins rx). That's some rag chew!
Cat D-2945

Shipping weight: 6.5kg
Shipping size: 290 x 310 x 180mm

$599

FVS-1 Voice Synthesizer

What a great idea! Actually gives your FT-2700RH or FT-270R/RH a voice (yes, it's in English) to tell you the frequency, VFO of memory selection, etc. This means you don't have to take your eyes off the road: it tells you! Also a brilliant idea for the visually impaired amateur. Cat D-3518

$79.95

2 position Coaxial Switch

At last! A really high quality coaxial switch suitable for all HF, VHF and UHF (900MHz) uses. Made by Welz in Japan, it offers the serious amateur better isolation, lower insertion loss and better performance than most other switches on the market. Cat D-5208

Shipping weight: 450g
Shipping size: 80 x 80 x 65mm

Specifications:
Impedance: 50 ohms
Frequency: DC-900MHz
Insertion Loss: Less than 0.1dB
Isolation: Better than 50dB
SWR: Better than 1.15
Power rating: 1kW (Cont) Maximum

$69.95

FRB757 Linear Relay Box

For use with FT757GX and non QSK type linears where the switching voltage or current is too high for the internal FT757GX switching relay. (50V at 400mA). Cat D-2946

$22.95

Shipping weight: 130g
Shipping size: 115 x 80 x 65mm

Fully Automatic Antenna Coupler

FC757AT

When it says fully automatic, beleive it! This amazing coupler actually has its own 4 bit microprocessor to allow fast, acccurate automatic impedance matching utilizing a modified pi network. Not only that, but it has a self-calculating (automatic) SWR meter AND an inbuilt inline RF wattmeter! It remembers which antenna you've selected for a particular band, along with the settings of the matching network (and stores the information in RAM) so when you go back to that band, everything is done for you: instantly. And if antenna conditions change while you're using it — it adjusts for you (and remembers the new settings!) Can also be operated manually.
Cat D-2942

$799

FIF232C Interface

The CAT (Computer Aided Transceiver) System in the FT575GX allows use of an external micro computer to control the memory and operating frequency functions. All you need is a standard RS232 port and this FIF232C interface. Full data information included. Cat D-2943

$189.95

Push-to-talk switches

For use with YH-1 headset for better communication — especially mobile! Two-way switch with locking tx one way, PTT other. With LED indicator.

SBS-2: Suits FT-230, FT-290, FR-690, etc. with larger 7 pin microphone sockets. Cat D-3512

$59.95

S-10PTT Switch Unit

Suitable for both FT-2700RH and the FT-270/RH, the SB-10 allows virtual hands-free operation with the headset earphone/microphone. A must for road safety!
Cat D-3519

Shipping weight: 100g
Shipping size: 150 x 85 x 40mm

$59.95

Only DSE has a 7-day satisfaction guarantee

FR290MkII

Yaesu had a pretty hard act to follow — the FT290R was one of the most popular sets we've ever sold (and one of the best sellers around the world). Here's the successor — and what a beauty! The FT290MkII has all the features of the "old" FT2909 — and then some! Cat D-2875

- **ALL mode (LSB, USB, CW & FM)**
- **2.5W output (switchable to 250mW)**
- **Standard or NiCad batteries**
- **10 memories**
- **Twin VFO's**
- **And much, much more!**

$949

Note: Limited stocks only held. If out of stock stores can order in for you. A 6m version (FT690MkII) is available on indent basis only at similar price — it too can be ordered through any DSE store or DSXpress.

YAESU

Push Button 70cm FT-709R

- **Full 10MHz coverage**
- **Microprocessor controlled**
- **10 memories, up to 3.7W out**
- **Complete with soft carry case, rubber duckie antenna**

All of those who do want all the bells and whistles...

... you can't go past the FT709R! Absolutely everything that the serious UHF'er could ever want — all in a hand-held! For a start, 10 memories to remember all your favourite repeaters and sked frequencies (covers the full 10MHz 430-440MHz band) with selective scan, priority scan, skip scan, busy or clear scan... band scanning — either full or within (your set) limits... Yaesu's unique Power Saver System: programmable receiver activation to check a selected channel. The battery lasts for much longer! Add your choice of battery packs for high or low power operation. Use the FNB3 pack (10.8V, 425mAh) for 2.7W out or the FNB4 (12.5V, 500mAh) for 3.5W out, standard cells (1.8W out) or even NiCads. (The FT-709R operates from 6 to 15V, so the latitude is there!) Cat D-3509

NB: Not supplied with batteries.

$629

Tiny on size — huge on performance

Yaesu's new Hand-Helds

Small enough to fit in the pocket, the glove box, the brief case... big on features and power. That's the new series of hand-helds from Yaesu. You won't believe the size: just 60 x 150 x 30mm (including battery)! That's about half the size you've been used to in a hand-held: yet these new hand-helds pack all the performance of their monstrous predecessors — and more... Fully microprocessor controlled, 10 memories, repeater splits, scanning (busy/memory/priority), 6 digit LCD display, up to 5 watts output (with 12V supply)... the amazing features of these mini marvels goes on and on.

70 centimetre: FT73

Covers 430 to 440MHz (440 to 450MHz available on special order "indent" basis). 2.0W output from FNB-10 battery supplied. Cat D-3495

Shipping weight: 500g
Shipping size: 230 x 210 x 85mm

$629

2 metre: FT23

Full 144 to 148MHz band coverage. Supplied with FNB-10 NiCad battery giving 2.5W output, plus mini rubber duckie antenna. Optional FNB-11 12V battery available soon. Cat D-3490

$599

GV-16 1.5W VHF Hand-Held Transceiver

Amazing value! Compact, 2 metre hand-held less than $300... Yes, under $300 considering today's exchange rates is sensational! But you don't lose on performance: It covers all 800 channels in the 144-148MHz band, with all the 'expected' features like repeater splits, thumbwheel tuning, detachable antenna (use with external ant if you wish), built-in condensor mic, slider volume control and much, more! Cat D-3520

- **Frequency range: 144-147.995MHz**
- **Modulation: 16F3 (FM)**
- **RF Output: 1.5W (150mW low)**
- **Sensitivity: 0.5uV (20dB S/N)**
- **Selectivity: +/-5kHz (-6dB) +/-15kHz (-60dB)**

Shipping weight: 350g
Shipping size: 200 x 100 x 65mm

$299

2M Mobile FT-270RH

Not just one, but two microprocessors to do everything for you except make coffee (they're working on that one!) That's the new FT-270RH mobile 2m. Absolutely the latest word in flexibility and performance — including 45 watts output! With 10 memories, dual VFO's and incredible scanning facilities, you're ready to take on the two meter pile-up: and win! And this is packed into just 140 x 162 x 40mm: small enough to go anywhere! Features high/low power output (45/5W) so it's just right for the city or the bush! Cat D-3517

- **Unique die-cast duct-flow heatsink**
- **Amazingly small**
- **Huge LCD back-lit display**

$799

It's like having two transceivers in one...

Yaesu's 2m/70cm FT-2700RH

Now have the best of both worlds — 2 metres and 70 centimetres — in one compact transceiver! The FT-2700RH is excellent value for the increasing number of amateurs who like to transfer from one band to the other — and the FT-2700RH offers easy one key switching. It's as simple to operate as it is enjoyable to listen to! More 2m enthusiasts went 'upstairs' to 70cm when the two became cluttered with garbage. Thankfully, the old 2m band is being cleaned up, and enthusiasts are returning. But 70cm has become entrenched. So that instead of buying two transceivers, you only need the ONE that offers the two bands. The FT-2700RH is a superbly designed unit with a host of impressive features. Enjoy Yaesu's renowned programmable memory scan. 10 memory channels. Priority scan. Dual independant front ends, local synthesizers, IFs and transmitter RF stages. Full duplex crossbanding — it's child's play. More and more amateurs are adopting the adage: that 'two bands are better than one'! And with the superb FT-2700TH, the enthusiast can enjoy the old favourite 2m and the large uncrowded 70 cm bands. Cat D-3515

- **25 watts continuous on both bands**
- **Two 4-bit CPUs for complete control**
- **Wide angle LCD display**
- **Includes scanning microphone and mobile mounting bracket**

Amazing amateur value at only...

$1199

1.2kW... SOLID STATE!

Yaesu's new FL-7000 Linear Amplifier

The one you've been waiting for: a fully solid state HF linear amplifier with a massive 1200W PEP (SSB) 1200W DC (CW/FSK) input — and that's rated at 30 minutes continuous on SSB! It needs less than 100W drive for full output, with spurious less than -50dB and 3rd order IMD less than -25dB. More than that, it also includes an automatic antenna tuner (range 16 to 150 ohms) so you won't cook anything with a poor match! Perfectly matches the new FT767GX, or the FT757GX, or just about any HF transmitter/transceiver you care to put on it (even those other brands!). Cat D-2549

- **Covers all WARC bands to 30MHz**
- **Size 390 x 1130 x 400mm**
- **Weight 30kg (also doubles as a great paperweight!)**

$3595

For base station use

Your shack's no good wihout a reliable, regulated supply! The Yaesu FP-700 General Purpose Transceiver supply is ideal for all "12V" transceivers. And only Yaesu can offer the rugged construction and reliability your equipment deserves. Regulated 13.5V at 20 amps. Most transceivers have small, ineffective speakers, so Yaesu have built a powerful, external speaker into this one for improved audibility — even in adverse conditions, it's loud and clear. Cat D-2916

$599

FC-700 Antenna Tuner

Match your transceiver and antenna perfectly! The FC-700 will give you the most from your 'rig'. Antenna matching can be as easy as turning a dial: so you'll have more time for better things. Gives maximum power and maximum performance from your valuable gear! Includes large power/SWR meter, built-in dummy load AND covers all WARC HF bands. All this, and there's less than 0.5dB insertion loss! Cat D-2917

$379

Amateur TV Transmitter

Originally intended for a UHF video distribution system (video input from VCR's, etc), these mini transmitters are ideal for amateur experimentation: with an output on channel 35 they're just in the amateur band. Therefore they could form the basis of a much more sophisticated transmitter with suitable amplifier, etc. Operation is extremely simple — standard composite video output and low level audio is fed into the unit and 12V power plugged in. That's it! Range depends on buildings, etc, but 15 to 30 metres is normal. Cat D-2500

- **Power Output: 2mW**
- **Supply: 9 - 12V DC (50mA) — internal provision for 9V battery to make unit completely self contained if required.**

$69.95

Hand-Held NiCads, Chargers, etc.

FNB-3 10.8V/425mAh NiCad

10.8V NiCad, suits FT203, 703, 209 and 709. Includes provision for charging without removal from hand-held. Instant removal and connection. Cat D-3506

$99

FNB-4 12V/500mAh NiCad

Slightly larger than above pack gives full 12 volts when highest power is essential (up to 5W out on the FT-209H!) Also includes charging provisions. Cat D-3507

$115

NC-9C NiCad Charger

Plug-pack type charger for FNB-3 or FNB-4 NiCads, ideal for charging battery while set is in use. Cat D-3514

$39.95

PA-3 Car Charger

Intended for operating 10.8 volt transceivers from a car cigarette lighter socket. Includes charging as well as power. Suits FNB-3 pack as well as older (FT-208 etc) style transceivers. Cat D-2899

$59.95

Yagi UHF Antenna:

Greatly improves directivity of transmitter or TV receiver — increases range (in one direction!) by a factor of 10 times. Gain approx. 10dB, 50 ohms impedance. Specifications included. Cat D-2505

$59.95

Microphones

Noise Cancelling Mic

Hand-held model where high QRM is a problem. Fitted with 8 pin plug, eliminates or reduces noise by out-of-phase inserts. Impedance 500 ohms. Cat C-1115

$47.95

Shipping weight: 190g
Shipping size: 230 x 100 x 75mm

Desk Mic

Superbly elegant desk mic to really set off your station. Locking PTT, up-down scanning buttons plus removable base. Impedance 500 ohms. Cat C-1114

$159.95

Shipping weight: 850g
Shipping size: 240 x 140 x 110mm

Hand-Held Scan Mic

Suits all Yaesu transceivers with scanning function. 8 pin plug, very easy to hold for long period. Ideal mobile mic. Impedance 500 ohms. Cat C-1116

$56.95

Shipping weight: 165g
Shipping size: 213 x 100 x 50mm

The above microphones all suit Yaesu transceivers shown on these pages, plus older types with 8 pin plug such as FT-ONE, FT-707, FT-107, FT-480, etc.

Universal Dynamic Mic

Designed especially for AM and SSB transceivers. This economical mic is supplied with a 5-wire (4 lead plus shield) 2 metre lead that can be adapted to any transceiver — even ones with electronic switching! Has a nominal 600 ohms impedance, can be re-wired with internal transformer for 50k. Supplied with a standard 4 pin socket. Cat C-1102

$26.25

Shipping weight: 125g
Shipping size: 120 x 105 x 25mm

YD148 Desk Mic

Smart styling, great performance. Dual impedance to suit many rigs. (500 ohms and 50k). Cat C-1118

$79.95

Shipping weight: 666g
Shipping size: 285 x 165 x 90mm

Noise Cancelling Mic

Ideal for the amateur or CB'er. Noise cancelling is achieved by use of twin out-of-phase inserts. Fitted with a high quality PTT switch and coiled lead. Impedance is 250-600 ohms with a frequency response of 300-5000Hz. Cat C-1105

$31.45

Shipping weight: 150g
Shipping size: 145 x 80 x 50mm

MH-12A2B Speaker Mic

Designed for the FT203, 209, 703 and 709 hand-helds. Allows greater flexibility (eg vehicle operation) with both mic and speaker in one. 3.5/2.5mm plugs. Cat C-1112

$62.95

Shipping weight: 130g
Shipping size: 110 x 100 x 50mm

Yaesu YM24A Speaker Mic

8 ohm speaker and 2k microphone in one. 6 pin plug suits FT207/FT208. Mounting bracket attached to mic. Cat C-1111

Shipping weight: 125g
Shipping size: 140 x 70 x 80mm

$54.95

Yaesu YE-7A

600 ohm microphone for general purpose communications use. Large PTT bar for sure switching, button on mic matches screw-in mounting bracket (supplied). 4 pin plug also suits most CB's — particularly older style. Cat C-1117

Shipping weight: 166g
Shipping size: 160 x 100 x 80mm

$28.95

Yaesu YM49 Speaker Mic

As above, but also includes up/down button plug lock for scanning 7 pin older-style line socket suits FT290, FT690, etc. Also includes matching screw-on dash bracket. Cat C-1110

Shipping weight: 250g
Shipping size: 210 x 95 x 60mm

$62.95

Mounting Clips

Magnetic: Cure a dangerous dangling microphone with this clip. It attaches to the rear of most hand-held microphones. A strong magnet holds the microphone securely in place to any ferrous surface. Cat C-1260

$2.80

Shipping weight: 40g
Shipping size: 40 x 35 x 20mm

Screw-in: A simpler type clip, can be screwed to any convenient location — the mic is held securely by a spring in the clip. Complete with mounting screws. Cat C-1262

$1.35

Shipping weight: 15 g
Shipping size: 50 x 25 x 10mm

More Amateurs

We encourage our staff to study for (and pass!) the amateur operator's licence examination. Dick Smith Electronics has more licenced amateurs than any other retail organisation in Australia — amateurs ready to serve you!

Ross Tester	Group Publications Manager	**VK2KRT**
Andrew Keir	Amateur Products Controller	**VK2AAK**
Peter Blume	Technical Products Buyer	**VK2XKB**
Tony Brown	Quality Control Manager	**VK2KTB**
James Cotteril	Service	**VK2ZYC**
Syd McKitrick	Wholesale Sales Manager	**VK4ZMK**
Michelle Huckle	Accounts	**VK2PAI**
Chris Ayres	North Ryde	**VK2YUS**
Edwin Baynash	North Ryde	**VK2PIV**
Stuart Cameron	Sydney City	**VK2ADE**
Chris Mylnarik	Sydney City	**VK2CMK**
Glen English	Hornsby	**VK2JPR**
Chad Coster	Blacktown	**VK2PWI**
Bob Dyball	Newcastle	**VK2YLC**
Tony Stone	Wollongong	**VK2VPR**
Phil McMillan	Wollongong	**VK2PMP**
Stuart Slee	Tamworth	**VK2TMS**
Craig Terry	Melbourne City	**VK3KLI**
Paul McPherson	Melbourne City	**VK2KKJ**
Fred Wong	Melbourne Service	**VK3XDN**
Craig Bonsor	Melbourne Service	**VK3XTB**
Mike Rogers	Belmont	**VK3NMR**
Tony Latemore	Redbank	**VK4ZSS**
Spencer Reimels	Redbank	**VK4NFF**
Al Grant	Redbank	**VK4NNP**

... And we're looking for more! If you're a licenced amateur operator and would like a career in retail electronics, we'd love to hear from you. The opportunities are great, the rewards are great — and the chances are high that you'd be placed in a store near your home.

Call the National Retail Manager on Sydney (02) 888 3200, or write to PO Box 321, North Ryde, NSW 2113.

DSE Technical Support Services

DSE Technical Support Services provides a wide range of services on all products to ensure customers achieve maximum benefit. A nationwide support service is offered from Service Centres strategically located throughout mainland capital cities, from which skilled engineers can provide a responsive back-up.

As well as offering the customer a complete after sales support service on all Yaesu and other amateur radio products, DSE holds a huge inventory of specialised spare parts and sub-assemblies so delays are kept to an absolute minimum.

DSE Technical Support also offers this service on other DSE products — and provides identical services for leading manufacturers of electronic goods.

State Service Centres

Sydney Service Centre
396 Lane Cove Rd, North Ryde **888 3077**

Melbourne Service Centre
656 Bridge Rd, Richmond **429 5817**

Brisbane Service Centre
166 Logan Rd, Buranda **391 8096**

Adelaide Service Centre
77 Grenfell St, Adelaide **232 1200**

Perth Service Centre
414 William St, Perth **328 6944**

Canberra Service Centre
Unit D, Farrer Shops, Farrer **86 2875**

Antennas

YAGIS — FROM RF AEROSPACE — EXCLUSIVE TO DSE!

$129

HD604Y: 6 Metre 7.6dB Gain

4 element design from RF Aerospace offering hitherto unheard-of performance for anything like the price. Covers full 50-54MHz band with less than 1.2:1 VSWR at centre frequency, suits vertical or horizontal polarisation. Wind tolerance 160km/h. Cat D-4702

Cat D-4700

$199

SAT 208GR: 2 Metre 13.6dB Gain

8 element design with outstanding performance — ideal for use in satellite work with very high gain and exceptional side rejection and front/back ratio — measured at 65dB and 35dB respectively. Bandwidth 10MHz (140-150MHz), VSWR less than 1.3:1 at centre frequency, suits vertical or horizontal polarisation. Rated at 100W max.

$59.95

HD205Y: 2 metre 7.8dBd gain

5 element gamma matched Yagi giving 4MHz bandwidth (full 144-148MHz band) with 1kW rating. VSWR less than 1.2:1 at 146MHz, has single driven element and 3 directors, reflector. 18dB front/back ratio. Cat D-4705

$249

SAT 7018GR: 70cm 16.4dB gain

Grid reflector Yagi Array with 18 elements for lower 70cm band (430-440MHz) with a full 10MHz bandwidth (less than 2/1), and a VSWR of less than 1.5:1 at band centre. Side rejection is greater than 60dB and front/back ratio is greater than 28dB. 100 watts maximum power. Cat D-4701

VERTICALS

V5JR 5 Band Vertical

Space at a premium? Try the V5JR:5 bands which take up next-to-no space! Virtually un-noticeable in the backyard — saves problems with neighbours and the council! It's 6.25 metres high, and rated at 300W PEP on 80, 40, 20, 15 and 10 metres. Mast support size up to 32mm. Just one feed line — uses pre-tuned traps so you're automatically on the chosen band.

Cat D-4305 $225

FOLDED J 2m Vertical

Every amateur has heard of the Slim Jim. Many have made their own! Now there's no need — our J Pole is so low in price you probably couldn't make it (not as well, anyway!) Covers full 2m band with VSWR <1.2:1, power rating 500W. Cat D-4211

$19.95

2MVCP: C-POLE 2m Vertical

A three-quarter wave vertically polarised 2m base antenna covering 140 to 150 MHz. Maximum power is 250W, with VSWR at band centre less than 1.5:1. Gain is 3.2dBd. Designed to give low angle of radiation, pre-tuned for optimum performance. Fully encased in non-contaminating PVC shroud for waterproofing and strength, and terminated in standard SO-239 socket. Attaches to mast with standard saddle clamp. Cat D-4703

$59.95

70CMVCP: C-POLE 70cm Vertical

Similar to the 2m c-pole but covering the 'busy' end of the 70cm band — 430 to 440 MHz — with VSWR of less than 1.5:1. 50 ohms impedance, terminated in standard SO-239 socket. It requires no tuning (pre-tuned at manufacture) and is very simply mounted. Cat D-4704

$59.95

MOBILES

2m 5/8 Wave Vertical

Real value in a 2 metre whip: this one is the ideal replacement antenna for all 2 metre users. ⅝ wavelength long, very flexible (so you won't break it off on low flying aircraft) with standard 5/16" x 26tpi female socket on base. Use with either of the bases at right. Long life black heatshrink covering. 1.34 metres. Cat D-4207

$29.95

½ Wave 2m Ground Independent

2.5dBd gain from this 2m whip. End-fed half wave design gives 1.5:1 or better SWR across entire 144-148MHz band. No problems with mounting location: it's ground independent! Coax lead inlcuded. Cat D-4209

$29.95

Co-Linear for 70cm

4.5dBd gain from this ⅝ wave co-linear. Bandwidth of over 10MHz (425-435MHz as supplied) with VSWR of 1.5:1 or better. Standard UHF mounting thread (suits UHF base). Cat D-4030

$14.95

HF SYSTEM

A range of HF antennas made for Australian conditions. Just fit the base - and place the whip on according to the band you're on. All whips are approximately 2m long, appropriately loaded, and feature adjustable tuning.

80m Cat D-4310
40m Cat D-4311
20m Cat D-4312

$44.95

Base to suit:

Standard 5/16in 26TPI to suit above whips.
Cat D-4313

ROTATORS

250KG HEAVY DUTY

Suits UHF, VHF and small HF beams. 250kg vertical loading and 0.4sq. m. wind loading. It requires only three conductors between unit and control — saving $$$ on long runs! Fully approved. Cat D-5005

$229

50KG MINI

For UHF, VHF and TV beams. 0.25 sq. m. wind loading, 50kg vertical load, also fully approved. Includes rotator and control unit. Cat D-5003

$139.95

Hand-Held Whip Antennas

1. UHF Amateur

Flexible fibreglass whip for 430MHz (UHF Amateur band) with BNC connector for direct connection to hand-held. 48cm overall length. Cat D-4010

$17.95

2. UHF CB

As above, but resonates on UHF CB band (477MHz). 42cm length. Cat D-4335

$17.95

3. VHF Amateur

¼ wavelength on 2 metres (144MHz). 36cm length. Cat D-4330

$17.95

Shortwave Antenna Kit

Why spend hundreds of dollars on a good reciever if you are only using a piece of string for an antenna?

Get the best reception from your receiver with this high quality shortwave antenna —

- Designed especially for DSE by a shortwave expert
- Complete and ready to assemble
- Needs no soldering
- Instructions included

Cat K-3490 $22.95

Egg Insulators

Small insulator, unbreakable nylon construction. Ideal for smaller antenna installations. Cat D-5300

99¢

Medium size — made of the same material, but will handle much larger installations: eg for extra long arrays or guy wires. Cat D-5302

$1.95

VHF/UHF Universal Antenna Kit:

Whip, coax and base

No more wondering 'which one to buy?': this one does the lot! And everything you need is supplied:

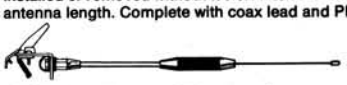
- Quality stainless steel 520mm whip, complete with cutting chart, suitable for mid VHF band (about 120MHz) up.
- Deluxe gutter gripper mount, suitable for a wide range of vehicle gutter types
- 5/16", 26TPI coaxially fed antenna base (intended for UHF work — even better at VHF!) which fits gutter gripper base perfectly.
- 2 metres UHF quality RG58C/U coaxial cable
- PL-259 UHF converter (as used on most tranceivers).

All this makes the perfect solution to your mobile antenna problems, whether they're amateur, UHF CB or commercial radio. Complete kit. Cat D-4025

$32.95

Mobile CB Antennas — 27MHz

1. 27MHz Gutter Grip Antenna
Simply clips onto the rain gutter of most vehicles. Features no hole installation and can be installed or removed without tools. Antennna has centre loading coil to increase effective antenna length. Complete with coax lead and PL-259 plug. Cat D-4411 **$29.95**



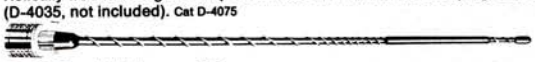
2. 27MHz Magnet Base Antenna
Centre loaded stainless steel construction with heavy magnetic base and 3.3m coax cable with PL-259 plug. Cat D-4412 **$29.95**

3. Mini Mini Whip
If you thought the above one was small... just 33cm long! Helically wound, extremely flexible. Standard 5/16" thread, suits 5/16" base (not supplied). Cat D-4635 **$15.95**

4. Bush Bandit Adjustable Helical
Another one from Mobile One! Top-loaded helical with fully adjustable top stud. Great for use as a spear, too. Standard thread, mount not supplied. Cat D-4420 **$24.95**

5. Mini Whip
Just 1 metre long — with really great performance. Less wind resistance, less danger of being hit by low flying aircraft. Standard thread, mount not included. Cat D-4072 **$19.25**

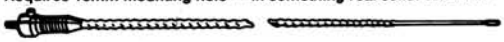
6. 100cm Whip with PL-259 base
Helically wound fibreglass whip terminated in standard PL-259 plug. Suits SO-239 base (D-4035, not included). Cat D-4075 **$19.95**



7. Helical Whip and Base
Our most popular CB antenna. 1.5m long, complete with coax cable and special base. Cat D-4076 **$32.95**

7a. Whip only for above system. Cat D-4074 **$22.95**

8. 183cm Whip, Super Heavy Duty
Just right for 4WD's vans etc — or anyone really serious about CB! Heavy duty unbreakable mounting base unit and massive spring, complete with PL-259 coax lead. Requires 13mm mounting hole — in something real solid! Cat D-4078 **$99**

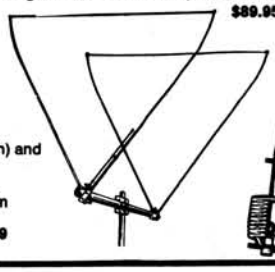


9. 250cm Whip, Base & Lead
Full ¼ wave antenna, suitable for vehicle (watch out for power lines!) or boat (watch out for pelicans!) use. Fibreglass encapsulated, 250cm high, complete with heavy duty spring and base and coax lead. Needs 13mm mounting hole — ideal for bull-bar mounting. Cat D-4081 **$79.95**

MOBILE ONE COMMUNICATIONS SYSTEMS

Base CB Antennas — 27MHz

1. ¾ Wavelength Vertical
Brand new design for 27MHz base stations. Very easy to erect, and very easy to SWR in. Not just for CB — also ideal for surf clubs, boating clubs, etc. And easily adapted to 28MHz for amateurs. Cat D-4427 **$89.95**



2. "V" Quad
Two element V-quad with dipole (inc gamma match) and reflector. Gives similar gain to a 3 element Yagi. Terminated in SO-239 socket, suitable for vertical, horizontal or dual polarisation. Triangular, with 3.6m hypotenuse and 3.8m adjacent sides. Cat D-4079 **$129**

Mobile CB Antennas — UHF

1. 2.5dBd Gain
End fed half-wave base loaded whip for UHF mobile use. Ground independent type, complete with base loading coil with integral mounting hardware. 1MHz bandwidth with SWR 1.5:1 or better. Needs 11mm mounting hole, antenna height (inc base from mounting plane) 32cm. Cat D-4020 **$32.95**

2. 4.5dBd Gain
Colinear UHF antenna with ¼ plus ⅝ wave for outstanding performance in such a short antenna: just 60cm long. Standard thread, suits any standard UHF base (not inc.) Cat D-4013 **$14.95**

3. 6dB Gain
When it's real performance you want, you won't beat this one: a huge 6dB gain means you're really going to get heard! This ground independent design includes a mounting base and UHF quality coax — it's ready to mount. Needs 9mm mounting hole. Antenna height (inc base, from mounting plane) 94cm. Cat D-4015 **$49.95**

Base Antennas — UHF

1. 6dBd Gain
Colinear base station antenna with omnidirectional characteristics. Ground independent construction, terminated in SO-239 socket. 2.4 metres high, needs only saddle clamp to mount to mast. Cat D-4011 **$49.95**

3. 9dB Gain Colinear
Super "hot" base antenna giving that extra gain so vital at UHF. Ideal for use in business applications where communication isn't just for fun! Cat D-3005 **$199**

4. 6 Element Yagi D-4009 **$59.95**

Accessories

Lightweight Spring
Designed to suit standard loaded ¼ wave mobile whips, to give the type of flexibility required in today's low car parks! Cat D-4500 **$9.95**

Male Thread Antenna adaptor
USA ⅜" x 24 tpi male thread to Australian female socket. Used for connecting USA ⅜" x 24 tpi base with Scalar or similar antennas. Cat D-4505 **$1.95**

Female Thread Antenna adaptor
The standard Australian Female thread to 9.5mm x 24 tpi female, used for connecting Scalar or similar base to any of our antenna or accessories with 9.5mm x 24 tpi mounting. Cat D-4504 **$2.95**

Roof Rack
The easy way to mount your antenna: no holes! Standard roof rack has specially made plate to take most antenna base mounts. 16mm hole even suits the big guns! Cat D-4520 **$14 95**

Boot Mount
Stainless steel boot/bonnet mount grips around lip of boot with non-scratch bumpers to protect duco. Ideal for company cars! Suits most antenna types (not the big'uns!) Cat D-4514 **$39.95**

Super Spring
Super is the word! Heavy gauge, heavily plated spring to give the big antennas the flexibility they need around low flying trees, car parks, etc. Threaded each end with standard 5/16 thread. Cat D-4082 **$27.95**

Magna-base Universal Mount
A quality magnetic base — ideal for the company car where holes aren't allowed! Complete with 2m coax and PL-259 plug. Standard thread suits most antennas. Cat D-4515 **$25.95**

SO-239 Antenna Base
Coaxial base with integral SO-239 socket for antennas with PL-259 type bases. Waterproof construction (no problem leaving antenna off). Cat D-4035 **$7.95**

Universal Mirror Mount
Clamps to your roof rack or mirror as a support for standard antennas. It has a 12mm hole for mounting the stud mount, D-4510, less centre plate. Made of plated steel. Cat D-4512 **$8.95**

Quick Disconnect
Enables you to remove your antenna from its mount with an easy press and twist. Saves your antenna being stolen. Cat D-4501 **$12.95**

Gutter Mount
Heavy duty gutter mount fits most cars/trucks/vans etc with roof gutters. Double Allen Screw adjustment for positive locking, angle also variable. Allen Key supplied. Cat D-5100 **$19.95**

Light Duty Antenna Base
Standard 5/6in 26TPI threaded mount in black ABS base. Suits ¼ wave and smaller CB antennas or small VHF whips. Mounting plate includes solder lugs for coax connection. Cat D-4056 **$5.95**

Coax Fed Base
Similar to above base but designed specifically for VHF/UHF use with minimum loss. Coax cable enters directly into bottom of mount and terminates on antenna thread. Waterproof construction. Cat D-4516 **$7.95**

Folding Snap Down
Allows CB and similar antennas to be folded down in car parks, garages, etc, without removal. Simply lift and fold over. Male and female 5/16" threads, electrically becomes part of antenna (SWR antenna after fitting). Cat D-4504 **$2.95**

Marine Antennas

VHF Marine Whip
Fibreglass marine antenna to suit international VHF Marine Band (156-163MHz). Supplied complete with deluxe "any-which-way" base and VHF-grade coax. Suits our range of VHF marine transceivers perfectly. Overall whip height (from mounting plane, including base) 1.2m. Cat D-4016

$79.95

27MHz Helical: no ground plane required
Marine Helical Antenna. Now! A whip antenna for glass, wood and cement boats. This helical antenna doesn't need a ground plane. Helical whip complete with mounting base, cable and simulated ground plane. Great value when you're on the receiving end! Cat D-4070

$59.95

Lowest priced SSB CB in Australia?

AM/SSB CB under $200!

NEW FOR 87

Australia's lowest priced full-feature AM/SSB CB? We're sure you won't find better value — anywhere! With maximum legal power, full 40 channels and the extra range and performance that SSB gives, this is the ideal CB for the truckie, the car driver — even the home base with optional power supply. It's fully approved, fully licensable (not like some "bargain" CB's being flogged around!) Cat D-1713

Features:
- **Very simple to operate**
- **Maximum legal power on AM and SSB**
- **Fully guaranteed (12 months extended guarantee)**
- **State-of-the-art circuitry with advanced specifications**
- **Complete with microphone, mounting hardware and instructions.**

Shipping weight: 2kg
Shipping size: 345 x 215 x 75mm

DOC Approval No. 2440040

$199

Ideal beginner's CB...

Economy AM

NEW FOR 87

If you don't need all the bells and whistles, this is the CB you want! Great for the beginner, also ideal for communication links on, say, farms, rural businesses, etc. Intended for mobile use (mounting hardware included), also usable as base station with optional power supply. Cat D-1450

- **Space saving: just 160 x 44 x 122mm • Full 40 channels • Maximum legal power • Built-in noise limiter • Digital Channel readout and power/strength indicators • Just three controls: so simple!**

Shipping weight: 1.8kg
Shipping size: 215 x 220 x 80mm

DOC Approval No. 249A0123

$129

3W 3 Channel Transceiver

At this price, you can't afford to be without one!

$129

Medium power, medium price — but top performer! A new model, exclusive to Dick Smith Electronics, with a multitude of uses. Approved for CB use. Has one CB channel fitted in the channel one position. Other channels left open for your choices. Great for fishermen, too: keep in touch (just in case!). Cat D-1106

DOC Approval No. 249A072

Shipping weight: 920g
Shipping size: 350 x [illegible] x 90m

Pocket Com II Walkie Talkie

This is THE transceiver for aspiring James Bonds or Dick Tracys in our community. Full 2-way transmission and a size that fits secretly into your pocket. A great gift for any child. Also ideal for the more serious use: a mother who wants to know what Johnny is doing in the backyard; for construction workers, etc. Buy a few and start a spy ring! Cat D-1101

Shipping weight: 137g
Shipping size: 250 x 120 x 30mm

$15.95

No licence required

Complies with DOC specification RFME001

CUB: Deluxe AM

But if you DO want all the bells and whistles, try this one: the CUB from Pearce-Simpson. Full scanning facilities means you don't have to take your eyes off the road when listening for a signal: just push the button and the set scans up or down. And the Channel 9 switch allows instant access to the emergency channel — no matter which channel you're on. Also includes switchable ANL (automatic noise limiter) to reduce ignition and other pulse noise. Unit size is just 130mm wide, 35mm high and 180mm deep — perfect for today's compact cars. Cat D-1460 DOC Approval No. 249A0129

- **Maximum legal power**
- **Full 40 channels**
- **LED readout**
- **Push-button channel selection**
- **Tiny size — fits mini car space!**

Shipping weight: 1.7kg
Shipping size: 235 x 265 x 60mm

NEW FOR 87

$149

Royce Slimline: Versatile!

Without doubt, it's the most advanced UHF CB set available. And yet it's also one of the smallest — an amazing 25mm thick, and just 145 x 162mm (d x w)! Nothing has been left out, either: full legal power output, all forty channels, full scanning facilities, instant highway/emergency channel access, repeater access, optional selcall and tone squelch... everything the avid UHF CBer could possibly want! But that's not all: add the optional carry case and the Royce becomes a completely portable set: ideal for bushwalkers, sporting events, even businesses, building sites, etc etc (yes, you can use CB for business purposes!) Cat D-1810

- **Full 40 UHF CB channels**
- **Simplex and Duplex (repeater) operation**
- **Ultra compact — with every possible feature.**

$599

$189.95

Royce Carry Case

Slip in the Royce CB — and you're portable! Complete with its own batteries (10 or 20 penlights), antenna and shoulder strap, it gives you complete versatility. Want to go mobile again? Just take out the CB and you're away! Cat D-1812

Selcall Option

5 tone Selcall (selective calling) pcb which means squelch will only open when it receives the correct tones. Great for clubs etc — set will operate when it hears other club members using same pcb. Cat D-1808

$129

Antenna Matcher

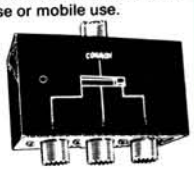
Connected in antenna lead, can be adjusted to virtually eliminate all mismatch between antenna and transmitter. Handles 100 watts, 50 ohm impedance, PL-259 connectors. Cat D-5512

$23.95

3-way Antenna Switch

If you have more than one antenna or use more than one rig then this switch will save you swapping by hand. Handles 150 watts at 30MHz: ideal for base or mobile use.

Cat D-5206

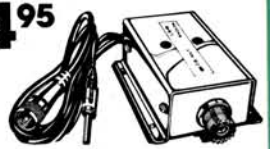


$16.95

Car Radio/CB Antenna Splitter

Why put on extra antennas when you don't have to? Use your normal CB antenna for your car radio too: Splitter box allows both to be used simultaneously. You can even transmit on the CB without blasting your car radio's input stage to bits! Cat A-7455

$14.95



Remote Communications Speaker

Great for the car, home — in fact anywhere you need an extension speaker for your transceiver or receiver. 8 ohms impedance, supplied with cable and standard 3.5mm audio plug. Because of the larger (10cm) diam. speaker, you'll probably get much clearer sound too. Cat A-2451

$18.85

Antenna Mount Roof Rack

Here is the ideal unit for the person who doesn't want the slightly directional effect sometimes obtained from gutter or bumper mounting. This fully plated bar mounts easily on virtually any car roof and will withstand high speeds and rough roads. Mounting plate with 16mm hole takes most available antennas and mounts. Cat D-4520

$14.95

Sundowner UHF Hand-Held

$599

Go-anywhere action on UHF CB: that's the Sundowner Hand-Held. All 40 channels fitted with very healthy 1.5W output (switchable to 0.15W to save battery). It's supplied complete with 10.8V NiCad battery (recharge also inc) and whip antenna — so you don't need anything else to start talking! Hand strap and belt clip supplied (use belt clip with optional base station with suitable power supply and external antenna. Cat D-1807

Shipping weight: 975g
Shipping size: 255 x 150 x 90mm

Sundowner UHF Mobile

The economy UHF set. Not as small as the above set — and without all the features. So you save money! Digital channel readout with simplex/duplex (repeater) operation means you won't miss any of the action — and the set features full legal power so they won't miss any of yours! Also has provision for optional tone squelch. Includes all mounting hardware, quality microphone and instructions. Cat D-1806

Shipping weight: 1.7kg
Shipping size: 315 x 190 x 95mm

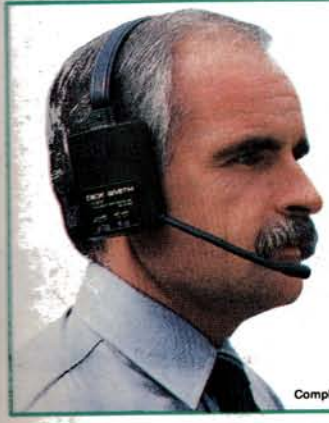
$399

Tone Squelch Board

3 tone system for the Sundowner Mobile. Cat D-1809

$99

Hands-free 2-way Radio



Keep in touch whatever you're doing!

Ideal for short range communication when you need both hands free. This superb quality FM 2-way radio transmits automatically. Perfect for the job site, around the home or at the training match. Lightweight — the one-ear boom mic adjusts to fit any size head. And you can use as many of them as you like! Cat D-1150

NO LICENSE REQUIRED

Complies with DOC Specification RFME006

$135.95

RF Signaliser

Inserts in antenna lead to give from -25dB to zero to +20dB gain. The gain lifts signals out of the mud while the cut stops them bending your needle. Switches automatically on transmit. Needs 12V DC 35mA. Cat D-3828

$69.95

CB Crystals

Plug-in transmit/receive pairs for the two most popular CB channels:
Channel 11 (27.085MHz) Cat D-6057
Channel 9 (27.065MHz) Cat D-6058

$8.75 each

DC Power Leads:

DC Power Leads for Midland Transceivers

(suitable for a huge range of other transceivers with 3 pin plug). Cat D-9001 **$4.95**

DC Power Leads for DSE Transceivers

Or other transceivers with 2 pin plug. Cat D-9006 **$4.95**

Bearcat Scanners

The big...

1. Uniden Bearcat 175XL

Did you know?...

Your common variety of bee, mates in mid air at speeds in excess of 25mph! The incredible Uniden Bearcat 175XL won't pick up mating bees on the airwaves — but there's not much else it can't find! This amazing 16 channel scanning radio is fully programmable and its NEW desk-top design makes it easy to operate. With features such as Automatic search, direct channel access, track tuning, automatic/manual squelch, channel lockout, air craft band, weather search, manual search option, 9 band coverage, selective scan display and speed control, it really doesn't need to listen to mating bees. The bees don't mind sharing the airwaves — they've got other things on their minds! **Frequency Coverage: 66-88MHz, 118-174MHz, 406-512MHz.** Cat D-2812

Shipping weight: 1.1kg
Shipping size: 440 x 235 x 105mm

$499

2. Uniden Bearcat 100XL

The Uniden Bearcat 100XL scanner would do any avid radio listener proud! There's hardly anything it won't do — except keep the tinnies cold. Still, it's easier to listen to than the fridge. **Featuring: • 16 channels • 9 band coverage • Automatic search • Selective scan delay • Automatic lockout • Selectable manual search • Direct channel access • Priority channel • Track tuning • Crystal free • Display light • Battery low indicator • Custom antenna.... and that's not all!** Comes with 6 NiCad batteries (installed) and a heavy duty carry case which can be clipped onto a belt. The Bearcat 100XL Scanner is heaps more fun than a fridge! Frequency coverage: 66-88MHz, 118-135.975MHz, 136-174MHz, 406-512MHz. Cat D-2813

Optional M-9526 plug pack available for power/charging.

Shipping weight: 900g
Shipping size: 335 x 255 x 85mm

$399

3. Uniden Bearcat 50XL

A compact, lightweight Hand-Held Scanner packed with features and sporting famous Uniden reliability! You won't believe these features: **• Fully programmable • 10 channels • 10 band coverage • Crystal free • Custom antenna • Automatic lockout • Manual or auto select • Large LCD channel readout • Track tuning • Direct channel access.** Plus battery or external DC operation! Comes complete with belt clip and full instruction manual. **Frequence coverage: 29-54MHz, 136-174MHz, 406-512MHz.** Cat D-2814

Shipping weight: 440g
Shipping size: 215 x 125 x 75mm

$299

All band, all mode general coverage receiver — FRG-8800

Here it is: the receiver everyone's been waiting for. It's the brilliant FRG-8800 from Yaesu — the world's leading manufacturer of amateur radio equipment. With specifications to more than match its outstanding looks, the FRG-8800 is a worthy successor to the rest of the 'frog' series. But this one has more: much more: 10 memories inbuilt — nothing extra to buy (they even remember the mode and filter!) And digital frequency entry as well as standard knob tuning. Provision for a VHF converter **inside** the receiver. CAT control capability. And much, much more. Ask for a copy of the free FRG-8800 colour brochure.

- **All mode/selectable IF & BW**
- **Multi scanner**
- **8 bit microprocessor**
- **S/SINPO graphic indicator**
- **Dual 24-hour clock**
- **CAT system computer control**
- **Wide-band VHF option**

YAESU

Two models to choose from:

FRG-8800 HF

150kHz to 30MHz
Cat D-2820
Shipping weight: 6.8kg
Shipping size: 400 x 370 x 210mm

$1259

FRG-8800 SW

2MHz to 30MHz
Cat D-2821
Shipping weight: 6.6kg
Shipping size: 400 x 370 x 210mm

$999

FRV-8800 VHF Frequency Converter

Fits right inside case — complete with its own telescopic antenna. Frequency range 118-147MHz. Cat D-2823

Shipping weight: 769g
Shipping size: 165 x 65 x 225mm

$299

FRT-7700 Antenna Coupler

Ensures best performance from all types of antennas. A must if your antenna is not low impedance. Cat D-2843

$159.95

FRA-7700 Active Antenna

Great for flat dwellers! No need for an outside antenna and preamp will pull in stations you didn't think possible! Cat D-2845

$159.95

FRG-8800 DC Kit

Allows operation of your FRG-8800 on 12V DC. Great for field operation, monitoring, etc. Cat D-2822

Shipping weight: 108g
Shipping size: 120 x 40 x 65mm

$8.75

Hear more... hear better

Helical Dipole Scanner Antenna

Now there's no excuse not to hear everything on your scanner — not when you have this scanner antenna. Designed by a scanner expert especially to suit the bandwidth of today's scanners, it features performance approximately equal to a quarter wave in free space. Covers all major scanner bands — 70 to 174 and 400 to 500MHz, with easy mounting via the eye hook (or if you prefer, can be mounted on mast with 50 or 75mm stainless steel hose clamps). Overall length is 155mm, and it weighs just 1.5kg. Fitted with 3.5m cable, terminated in standard car-radio type coax plug (as used by 99% of scanners). Cat D-4432

Get the most from your scanner!

$39.95

Mobile Scanner Antenna

Get a clearer signal with this bargain priced Mobile Scanner Antenna. Covers VHF hi/lo aircraft and UHF band! Just screw it onto your mobile antenna base. Cat D-4434

Shipping weight: 90g
Shipping size: 770 x 15 x 15mm

$11.95

Air Band VHF Radio & AM/FM

You've probably wondered what goes on, what pilots and air traffic controllers talk to each other about... Wonder no more! This budget aircraft band radio tunes the entire band, so you don't miss a thing. It also covers the normal AM broadcast band too, so you won't miss out there either! Operates from 4 penlight batteries (supplied) with telescopic whip antenna for aircraft band and internal ferrite rod for broadcast band. Cat D-2836

Specifications:

Ranges:	**530-1600kHz; and 108-174MHz**
IF:	**455kHz and 10.7MHz**
Output power:	**450mW max**
Speaker:	**6.4cm**
Power source:	**6V DC (4 penlight cells)**
Circuitry:	**10 transistors and 7 diodes**
Size:	**22 x 11 x 5cm**

$29.95

Yaesu FRG-9600

All Mode VHF/UHF Receiver

Specifications:	
Frequency:	60-905MHz (up to 460MHz for SSB)
Modes:	FM Narrow (15kHz BW); FM Wide (180kHz BW); AM Narrow (2.4kHz BW); AM Wide (6kHz BW); SSB (2.4kHz BW)
Conversion:	Triple (FM-N, AM, SSB); Double (FM-W); Single (Optional Video)
IF's:	45.754, 10.7MHz and 466kHz
Image rejection:	60-460MHz -50dB typical; 460-905MHz -40dB typical
Sensitivity (typ):	FM-N 0.5uV (for 12dB SINAD); FM-W 1.0uV (for 12dB SINAD); AM-N 1.0uV (for 10dB S+N/N); AM-W 1.5uV (for 10dB S+N/N); SSB 1.0uV (for 15dB S+N/N)
Tuning steps:	FM-N* 5/10/12.5/25kHz; FM-W 100kHz; AM-N 100Hz/1kHz; AM-W* 5/10/12.5/25kHz; SSB 100Hz/1kHz. * Selected steps show on display
Memories:	100
Audio output:	1W (into 8 ohms <10% THD)
Voltage:	DC 12-15V

To call this receiver impressive would be the understatement of the decade... if not the century! There are more features, more listening capabilities packed into this receiver than would have been dreamed possible just a few short years ago!

The FRG-9600 is a scanning receiver capable of covering the **complete** 60 to 905MHz VHF/UHF spectrum. But even more than that, the FRG-9600 is **all mode** — FM, AM, CB, SSB... the lot. At the touch of a button, it opens up an exciting world of communication: FM-wide for standard FM and TV station sound transmissions. FM-Narrow is your passport to the arena of two-way communication — emergency services, business, military and amateur radio. Other amateur bands plus aircraft bands are accessible through the AM and SSB modes (SSB covers up to 460MHz).

An impressive array of features

All the controls and functions that make listening a pleasure. Your choice of keypad frequency entry or tuning dial. Advanced selectable scanning functions which allow a variety of scanning types: busy, clear, audio scan (avoids 'carrier only' channels), specific band scanning, memory scanning... and so much more.

And computer control if you want it!

Full external computer control is possible using Yaesu's CAT (Computer Aided Transceiver) interface. Multiple memory banks, automatic tuning, customised scanning, searching... if your game is serious listening, then this is what you've been looking for!

Outstanding specifications

Take a look at the specifications panel. You'll agree it offers absolutely outstanding performance.

Expensive?

Of course, the FRG-9600 doesn't come cheap. Or does it? Think, for a moment, of all that the FRG-9600 replaces. Everything right there inside one package. In fact, the technology is so advanced that money probably couldn't have bought it until very recently! Cat D-2825

Shipping weight: 3.7kg
Shipping size: 405 x 145 x 250mm

BEWARE OF IMITATIONS

There is only one Yaesu FRG-9600. Some unscrupulous traders have been passing off foreign models (with a different type number) as the FRG-9600. The genuine FRG-9600 is only available from the factory authorised Yaesu agents in Australia.
Dick Smith Electronics.

$1199

10 Band Portable Radio

Here's a great little 10 band portable at a fantastic value for money price! At 160 x 76 x 28mm it's small enough to carry with you to the beach, football, work — anywhere! With AM/FM, 8 shortwave bands built-in antenna, carry cord, slide band selectors and much more! Superb sound reproduction and quality construction makes this the ideal portable. Has phones and DC adaptor sockets and comes with it's own soft carry case. Runs on 3 AA size batteries. Cat D-2834

Shortwave:
1. 2.30-5.20MHz
2. 5.80-6.20MHz
3. 7.05-7.50MHz
4. 9.45-9.90MHz
5. 11.55-12.05MHz
6. 15.05-15.55MHz
7. 17.45-18.05MHz
8. 21.45-21.95MHz

Frequency range:
MW: 78-108MHz
FM: 522-1620kHz

$89

Shipping weight: 572g
Shipping size: 215 x 70 x 136mm

SWL's Multiband Radio

Brings the world into your home!

It's a great combination of listening excitement: local AM/FM plus LW/MW/SW. Five tuning functions allow either direct frequency key-in, auto or manual scanning, pre-set (9 station memory) or manual rotary tuning. LCD display and a 24-hour clock — with backlights for night viewing. 5 LED signal strength meter . Treble, bass, volume and balance with slide-action controls; adjustable RF gain and BFO for SSB and CW. Plus a host of other features. Cat D-2831

- **Five tuning function — including direct frequency key in**
- **Sleep timer — between 90-10 minutes**
- **Separate treble and base controls**
- **LCD digital frequency display**
- **5 LED signal strength indicators**
- **Two power sources: batteries or optional AC adaptor**
- **FM band & AM broadcast band**
- **AM bands — 150-29999kHz**
- **Longwave bands — 520-281kHz;**
- **Shortwave band — divided into 12 bands: 120M, 90M, 75M, 60M, 49M, 41M, 31M, 25M, 19M, 16M, 13M and 11M.**

$379

Direction Finder Radio

With AM/FM/CB/SW/SSB

Top value for the avid radio listener — or the boat owner who wants to know just where he is! This quality radio receiver has a built-in radio direction finder to pinpoint your position against AM radio stations. Plus you get 6 bands including all 40 CB channels plus shortwave AND VHF! Operates from either mains or batteries (not included) and can even double as a PA amplifier with optional microphone! You also get not just one, but two different manuals — including a full SW listening guide. Cat D-2832

- **AM Broadcast Band**
- **FM Broadcast Band**
- **CB Band (26.94-27.45MHz)**
- **VHF Bands (59-218MHz)**
- **Shortwave Bands (3.9-12.5MHz)**

Shipping weight: 3.9kg
Shipping size: 405 x 170 x 303mm

$149

Synthesized Magnavox World Receiver

There's a whole world to listen to out there — and with the Magnavox World Receiver it can be right at home with you. An amazing receiver with just about every feature imaginable! Just imagine — SSB/AM/FM/LW reception, direct access to 11 SW bands, direct frequency key in, double conversion superhet, PLL tuning, 16 preset memory, tuning/battery meter, automatic search, inbuilt antenna, 2 loudspeakers (selectable woofer), mains or battery operated, alarm clock, connections for — external antenna/DC/line out and much much more! If you're serious about radio — the Magnavox World Receiver will be serious with you! Cat D-2999

Shipping weight: 4.98kg
Shipping size: 380 x 390 x 175mm

$699

Amateur

RAK BL-50A Balun

'T' shape design for use as a centre support for dipoles or yagi antenna. Input 52 ohms balanced. Output 52 ohms unbalanced. RF input power 1kW with an insertion loss of less than 1dB. Frequency range entire HF band (1.8 to 30MHz). Cat D-5310

Shipping weight: 139g
Shipping size: 100 x 75 x 25mm

$59.95

Morse Keyer Paddle

No, it's not an oar for Morse operators left up the creek! A quality constructed Galbraith paddle for use with auto Morse Keyers. And it's at a DSE exceptional value-for-money price! Cat D-7103

Shipping weight:450 g
Shipping size: 150 x 80 x 40mm

$39.95

RF Balun Kit

Contains a large, quality balun core (50.8 diam.) with a quantity of heavy gauge wire, suitable for up to 1kW. Full instructions supplied. Can be used for a number of antenna types up to 30MHz. Can also be used for RFI suppression, from amateur and CB Gear into audio amplifiers. If the speaker leads are wound through the core (as many turns as will fit) the core stops RF energy entering the amplifier in this way.

Cat D-5350

Shipping weight: 165g
Shipping size: 140 x 100 x 15mm

$18.95

Fan Cooled Dummy Load

You can be sure this one will remain cool when testing all that valuable equipment. Designed for testing and adjusting a large range of high-power, high-frequency equipment the robust construction won't let you down. Inbuilt fan is smooth and surprisingly quiet. Cat D-7020

Specifications:
Input Impedance: 50 ohms
VSWR (at normal temp.): <1.2 (DC-250MHz); <2.0 (250-450MHz)
Rated Power: 100W cont.; 500W (On for 1 min., Off for 3 min.)
Cooling Fan:
Operating Voltage: 10V DC -14V(rated 12V DC)
Rated Current: <200mA Connector: SO-239
Shipping weight: 885g
Shipping size: 210 x 115 x 100mm

$129

Novice Course

For the person wishing to enter the hobby of Amateur Radio this is an easy to follow first instruction. Complete with Morse tape which gives you full novice standard. Cat D-7110

Shipping weight: 250g
Shipping size: 280 x 205 x 20mm

$12.95

CB Slide Mount

A great security feature! This easy to install slide mount lets you remove and replace your CB in seconds. All connections are built in so all you do is slide it out. Don't leave your CB in your car for some creep to steal — take it with you! Also ideal if you own more than one vehicle — saves on CB's. Comes complete with lead and PL259 plug connector. Cat D-4525

$19.95

15 watt Finned Dummy Load

A coaxial terminator with superb SWR characteristics over a wide band width. High heat resisting ceramic resistor assures excellent withstand current characteristics and gold plated core wires assures low contact resistance and long life. **Features: • 50 ohms impedance • 15W continuous power rating with 100 watt up to 30 seconds.** Cat D-7025

Shipping weight: 87g
Shipping size: 170 x 85 x 40mm

$36.95

Morse Economy Key

Ideal for practice, just the shot for a youngster wanting to learn Morse. Great with our Morse Code Oscillator project in the FunWay series! Cat D-7105

$4.95

Low Power Dummy Load with Lamp

Fantastic value where you need a dummy load but don't need one of the fancy expensive types! A PL259 plug with inbuilt lamp which acts as a 5 watt load. Intended for tuning maintenance and alignment of your CB and 27MHz Marine. Cat D-7024

Shipping weight: 30g
Shipping size: 75 x 75 x 20mm

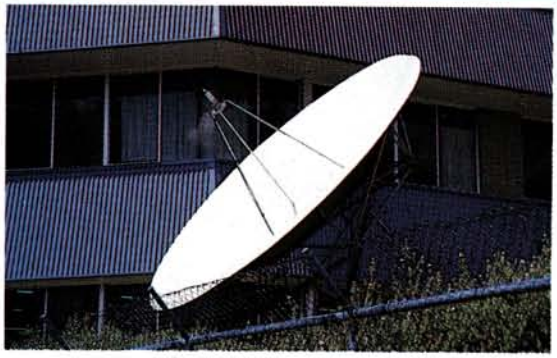
$2.95

Shinwa Filter

Stubborn case of TVI and BCI? Try the 'Big Gun'. Shinwa filter has helped thousands of customers. Handles up to 500 watts. Cut off is around 30MHz, insertion loss is less than 1dB and maximum attenuation is around 50dB! Ideal for amateurs and CB'ers. Cat D-7080

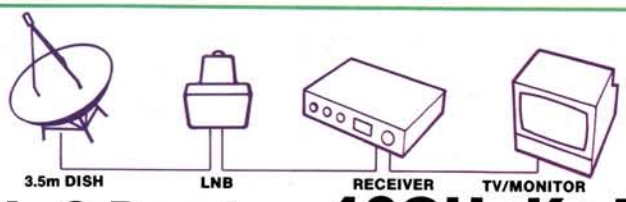
$49.95

SATELLITE TV



Receiveing Dish

Whether you wish to set up an Intelsat station or an Aussat (for PAL reception) station DSE can advise what type and suitable supplier of a dish to suit your specific requirements. Our technical engineers have written special instructions to make installation and aiming easy.



4GHz C Band Converter

An integral part of your receiving system where quality and reliability are of prime importance. This LNB combines LNA and Block Down Converter in the one housing for greater stability and ease of installation. C Band LNB is suitable for Intelsat only. Cat D8307

Specifications:
Conversion Gain: 66dB typical
Noise Temperature: 55° K
Frequency Limits: 3.7-4.2GHz

$499

12GHz Ku Block Band Converter

Just the sames as the previous converter only this one is designed for the Ku Band which is suitable for Aussat reception only. Cat D-8301

Specifications:
Frequency Band: 12.25-12.75 GHz
Conversion Gain: 50dB min.
RF Input Power: -10dBm (CW)
Output Frequency: 0.95 -1.45GHz
Noise Figure: 2.5dB max

Shipping weight: 290g
Shipping size: 170 x 50 x 35mm

$489

Block Satellite Receiver

An efficient system relies on a quality receiver. We've taken the best value we could find without compromising performance. Features tunable audio subcarrier, switchable normal and invert video polarity, selectable Mono/Matrix/Stereo modes, switch selectable H/V and signal strength indicator. Receiver is suitable for both Aussat and Intelsat reception. Cat D-8300

$599

Specifications:
IF:
1. Input Frequency: 950-1450 MHz
2. Input Level: -5dBm to -50dBm
3. Bandwidth: 23MHz at -3dBm
4. FM Threshold: 8dB
VIDEO:
1. Frequency Resp: 30Hz-4.2MHz
AUDIO:
1. Tuning Range: 5-8MHz

Shipping weight: 4.25kg
Shipping size: 390 x 295 x 110mm

Chapparal Feed Horn

The 'Industry standard' Chapparal feed horn is used in low to marginal signal areas — ie Australia — where only the best will pick the signal out of the mud! Polarisation correction fitted for reception of Intelsats. Cat D-8200

$89

Cable Set

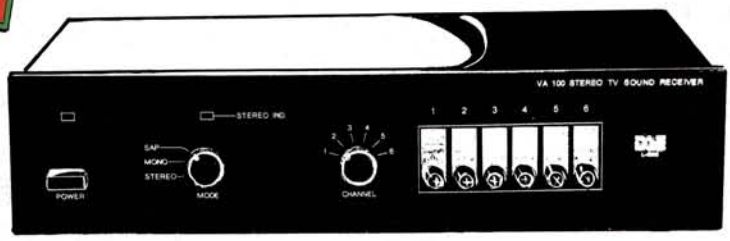
30 metre top quality low-loss connection cable, ready termination with 'F' type connectors. Ready to connect LNC to receiver. Cat D-8303

$59.95

Even from your old set you can now get...

Stereo TV!!

Your old telly can have the best qualities of the modern ones — without spending a thousand dollars or more on a new model! You can have full stereo sound from your existing set. Just plug in the DSE Stereo Sound Receiver and quality stereo is at your fingertips (and buzzing around the room as well!). You can put it through your existing stereo amplifier and speakers for true hi-fi and the 6 preset stations make tuning a breeze. Its handsome design and compact size mean it'll be at home anywhere. Features include 6 preset stations, video and audio output with terminals, mono/stereo mode selection, LED stereo indicator and more! Yes, it's fully compatible with Australian "two carrier" TV system. Comes complete with adaptor plug and connecting leads. Cat L-4905



Specifications:
Input Frequencies: VHF Ch. 0-11
UHF Ch. 21-69
Composite Video Output: 1 Vp-p into 75ohms
Audio Line Output: 300mv p-p into 4.7K ohms
Shipping weight: 2.5kg
Shipping size: 320 x 190 x 170mm

$199

28cm Wallmount

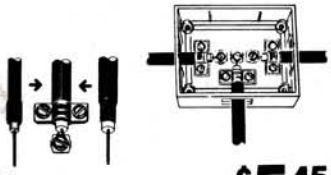
28cm long, can be used for wall or barge mounting of vertical masts up to 5cm diameter. Complete with saddle clamp assembly. Cat L-4152

$7.95

Shipping weight: 570g
Shipping size: 213 x 135 x 70mm

Indoor 75 ohm Splitter

Similar to L-4474, but for two sets only. Covers 50-890MHz. Isolation: 25dB. Insertion loss: 3.5dB. Cat L-4472



$5.45

Shipping weight: 50g
Shipping size: 100 x 65 x 30mm
10 up $4.90

TV Game Balun

Makes it easy to use your colour TV game with a black and white set. Spade lugs make connections simple, no soldering required. Excellent value. Cat L-4454

$2.95 **10 up $2.66**

Shipping weight: 13g
Shipping size: 110 x 80 x 10mm

4-way 75 ohm Splitter

This splitter is housed in an attractive plastic box with snap lid. It features nickel plated easy to connect screw terminals. It can be mounted in any position. Used to operate up to 4 TV sets from one aerial when using 75 ohm coaxial cable. Covers 50-890MHz. Isolation: 30dB. **NOTE:** If all outputs are not being used at once a 68 ohm resistor should be placed across the unused outputs. Cat L-4474

Shipping weight: 75g
Shipping size: 95 x 60 x 30mm

$7.75

10 up $5.45

Universal Balun

The universal balun — has 300 ohm screw terminals and 75 ohm coaxial plug — can be used either way round. Ideal for the person requiring a balun but not really knowing which type! Cat L-4456

Shipping weight: 15g
Shipping size: 110 x 80 x 20mm

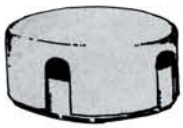
$2.95

10 up $2.66

Indoor UHF/VHF Diplexer

Many TV sets and videos have only one antenna input: tough luck if you're running VHF and UHF antennas! Now there's a solution — the Diplexer. Accepts lead-ins (75 ohm) from both antennas and combines them without the normal losses associated with couplers used at UHF. Then you can run one lead-in to the TV/Video. Cat L-4470

$9.95



Shipping weight: 100g
Shipping size: 110 x 110 x 30mm

TV Game Computer Switch Box/Balun

If you have a TV game you're probably sick of swapping cables every time your want to use it. Problem solved with this switch box/balun! Switch between 2 inputs — and it gives you the choice of 75 or 300 ohm input. Cat L-4500

$6.60

Shipping weight: 27g
Shipping size: 110 x 110 x 25mm

Square Wall Plate with 75 ohm Socket

Square plastic wall plate with built-in 75 ohm TV connector suitable for UHF and VHF reception. Cat L-4503

$3.95

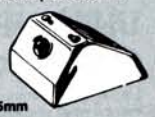
Shipping weight: 120g
Shipping size: 110 x 100 x 20mm

75 ohm Fittings — So when you turn it on, it works!

Wall Socket

Mounts on wall or skirting board. Mount a number around the house for portable TV viewing. Cat L-4504

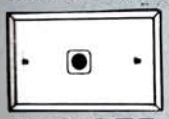
$4.75



Shipping weight: 27g
Shipping size: 100 x 75 x 25mm

Wall Plate with 75 ohm Socket

Plastic wall plate with built-in 75 ohm TV connector. Can also be used as a 75 ohm splitter. Cat P-2042



$4.35

Shipping weight: 55g
Shipping size: 140 x 110 x 10mm

Metal 75 ohm TV Coax Socket

Cat P-2030

$1.60

10 up $1.45
Shipping weight: 15g

75 ohm TV cable

2m quality 75 ohm coax fitted with standard TV coax plugs. Ideal for use in flats, units, etc. with wall outlet. Cat L-4506

$4.40 **Shipping weight: 100g**

Metal 75 ohm Coax Plug

No soldering required
Cat P-2020

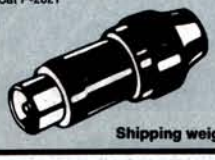
Shipping weight: 15g

$1.50

10 up $1.20

Plastic Line Plug

Cat P-2021

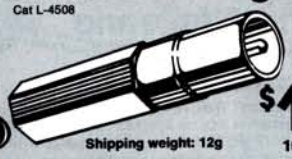


$1

10 up 77¢
Shipping weight: 8g

Metal Line Plug

Cat L-4508



$1.20

Shipping weight: 12g
10 up 85¢

BNC Line Plug

(As used on many videos) Suitable for RG58RU cable
Cat P-2210

$3.95

10 up $2.45
Shipping weight: 14g

Plastic Line Socket

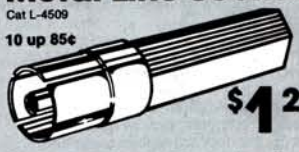
Cat P-2031

$1.10

10 up 95¢
Shipping weight: 6g

Metal Line Socket

Cat L-4509
10 up 85¢



$1.20

BNC Line Socket

(As used on many videos) Accepts P-2210
Cat P-2220 **Shipping weight: 40g**

$2.95

10 up $1.28

Need an antenna? Turn the page for our huge selection of quality Australian made antennas. And they're all at the famous DSE low, low price!

Antennas

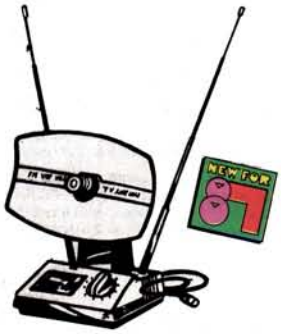
Things a little fuzzy? You'll when you purchase your For UHF, VHF or FM you'll

Deluxe 3 Band Indoor

Ideal for strong reception areas, you'll save heaps on complex outside systems with this quality UHF, FM, VHF indoor antenna. Colour, black and white and stereo, nothing's a worry for this one. Installed in seconds for the perfect picture. Cat L-4005

Shipping weight: 570g
Shipping size: 210 x 135 x 190mm

$29.95



Economy Indoor

If you're lucky enough to live in a strong signal area, you'll probably get by with one of these spiral antennas, even with colour. Don't expect miracles if you're out of sight of the transmitter, (it is quite probable you will require an outside antenna). Cat L-4010

$9.95

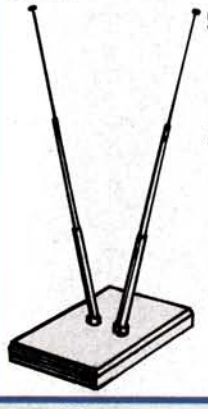
Shipping weight: 1.5kg
Shipping size: 1000 x 200 x 100mm

Good Ol' Rabbit Ears...

When an outdoor antenna isn't possible or connecting a second TV set is too much trouble, count on the good old rabbit ears... the indoor antenna that sits on your TV set. Delivers great picture quality. Easy to set up: connect 300 ohm cable to back of set, adjust 'V' antennae for precise signal. Extending telescopic antennae fine tunes reception on individual channels. Cat L-4015

$14.95

Shipping weight: 222g
Shipping size: 270 x 108 x 47mm



Economy Band 5 With Reflector

You can save money if you're in a normal reception area! With back reflector to help eliminate ghosting this one's similar to L-4045. You'll get a great picture and save money to boot! Designed for UHF band 5 reception, it's a great money saver! Cat L-4035

$44.95

Shipping weight: 500g
Shipping size: 850 x 280 x 80mm

When reception's difficult...

Super Band 5

For the best possible UHF reception the Super Band 5 gives maximum gain — minimum ghosting. 16 elements with 15 element reflector help give you the best possible reception. Built for those fringe areas where reception is normally difficult you'll get the picture loud and clear! There's no special tools required so it's easy to install. Cat L-4045

$79.95

Shipping weight: 1.715kg
Shipping size: 1500 x 80 x 40mm

Band 4 Antenna with Reflector

Got a good VHF antenna but getting lousy UHF reception? Well, here's a solution. The Band 4 antenna can be coupled to your existing VHF job and you'll get the best of both worlds. With inbuilt back reflector you won't get any spooks, ghosts or goblins — just the real thing! Perfect for SBS channel 28. Cat L-4040

$49.95

Shipping weight: 900g
Shipping size: 400 x 90 x 80mm

Combined UHF/ VHF Antenna

Why put up two antennas when one antenna will give you both UHF and VHF signals? One of our most popular antennas. Has the latest 14 element design which needs just one feed line. Suits 300 ohm ribbon. Easy to install on existing mast. Comes complete with mast clamp. Great value for dual purpose antenna! Cat L-4020

Shipping weight: 2kg
Shipping size: 2340 x 180 x 100mm

$69.95

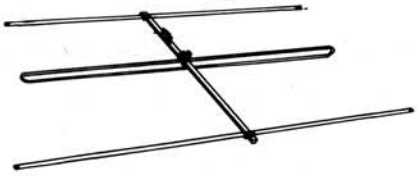
3 Element FM Antenna

If you want top performance from your FM tuner, you're going to need an FM antenna. But most FM antennas cost a fortune — so most people put up with the ribbon type. That's fine if you live close to the transmitter, but what if you don't? We have this 3 element FM antenna that costs a lot less than other antennas. But its performance is just as good as antennas you'd pay twice as much for... and more! Very easy to erect, lightweight, and with 300 ohms impedance, suits almost all FM receivers. Try it: you'll be surprised how good FM sound is. Cat L-4064

- **Covers all FM station frequencies**

Shipping weight: 9.25kg
Shipping size: 1000 x 200 x 50mm

$34.95



Indoor Ribbon TV/FM Antenna

A simple flexible dipole antenna suitable for both FM and TV reception. It is best suited to primary reception areas where it is unnecessary for a full scale outside system. It is ideal for use in situations where space is at a premium. Simply connect to your terminals, find the best reception position and then secure with thumb tacks or adhesive. Cat L-4060

- **300 ohms impedance**

$4.95

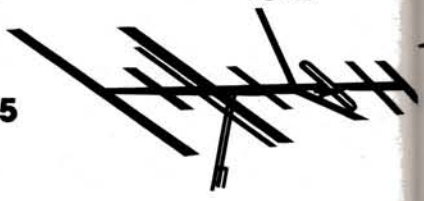
Shipping weight: 50g
Shipping size: 170 x 1100 x 20mm

Metropolitan High Gain

This antenna has proven to be our biggest seller. Extremely popular in the metropolitan areas and near fringe areas, because it has been designed to give maximum gain on channels 2, 7, 9 & 10. Complete with mast clamps, suits twin lead with its 300 ohms impedance. Use a balun if you want to use 75 ohms coax cable with this antenna. Cat L-4022

Shipping weight: 2kg
Shipping size: 2120 x 200 x 100mm

$59.95

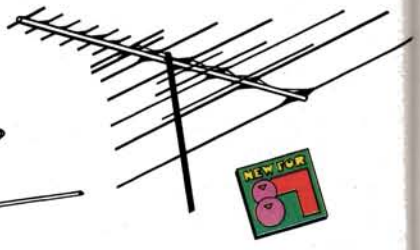


UHF/VHF Combination

Now with 60% higher gain on Band 4 UHF — so finally you can read the subtitles! One antenna and you get superb UHF and VHF reception. Ideal for fringe areas! An extra element for higher gain on lower channels makes this the ideal all round antenna. With only one lead in and versatile mounting clamp it's easy to install and tune! Cat L-4050

Shipping weight: 2kg
Shipping size: 2150 x 200 x 80mm

$89



UHF/VHF Down Convertor

Like to get Channel 28 on that old set? Here's what you'll need! Our new UHF/VHF Down Converter is great value and saves heaps on buying a new set. With adjustable channels 21-69 it tunes in perfectly. Ideal for suburbs with local area translators. Comes complete with power supply and full instructions! Cat L-4473

STOCK DUE IN SOON!

$79.95

Antennas

get a great reception new antenna from DSE. pick up the best deal!

Ghost Buster Antenna

Live too close to a signal source? Picture quality reduced by excessive ghosting? Here's the answer: DSE's amazing Ghost Buster! Superb UHF (band 4)/VHF antenna features a ghost cancelling box which 'banishes' those electronic gremlins from your screen. You won't believe the improvement, but you'll enjoy it! Cat L-4023

$99

Shipping weight: 2.25kg
Shipping size: 1590 x 105 x 250mm

Phased Array

For long distance

Fantastic VHF antenna for country viewers! Receives signal over 100km from the city transmission centre. Now, instead of being limited to either one or two stations ADD the complete city networks. Easy to install... do it yourself and save $$$! Cat L-4025

$99

Go-Anywhere FM/TV

For boat, caravan, camper, etc.

Here's a go anywhere TV/FM antenna that's small enough to be packed up and put in the camper or van. It even comes with a special 'gutter gripper' bracket for caravan use, plus a mini mast and 7 metres of 300 ohm ribbon. Single folded dipole for maximum performance over wide frequency range, suits horizontal or vertical mounting. Cat L-4026

300 ohms impedance

$49.95

Economy VHF/ UHF

It's made for those good reception areas! If you're close to the transmitter you won't suffer on quality but you **will** save money. Channels 0 to 11 VHF FM and UHF Band 4 including channel 28! Cat L-4027

$39.95

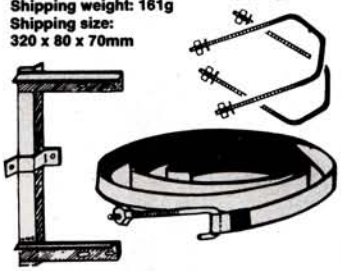
Shipping weight: 715g
Shipping size: 1260 x 150 x 60mm

Chimney Mount

This is a double arm, single strap, easy to mount unit. Complete mast mount assembly. Cat L-4154

$18.95

Shipping weight: 161g
Shipping size: 320 x 80 x 70mm



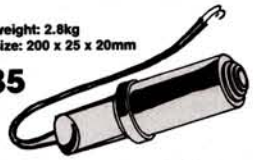
Indoor/ Outdoor Balun

NEW FOR 97

Successully matches 75 ohm coaxial cable to the 300 ohm ribbon terminals on your TV, FM tuner or antenna. Weather resistant for either outdoor or indoor use. Comes complete with coaxial plug connector and cover and can be installed in minutes. Cat L-4465

Shipping weight: 2.8kg
Shipping size: 200 x 25 x 20mm

$4.35



Easy Outdoor Antenna Connection

Saves heaps of time and trouble! This 12 metre coax cable comes complete with outdoor Balun — already fitted. Just connects straight onto your antenna and TV. Coax will generally give you a better colour reception so why not change that old ribbon lead? Cat L-4466

$19.95

Shipping weight: 450g
Shipping size: 160 x 200 x 40mm

Barge-board Mount

Designed to mount any TV antenna from a vertical surface, barge-board, wall, chimney, etc. 139cm long. (Hot dipped galvanised to prevent corrosion.) Cat L-4150

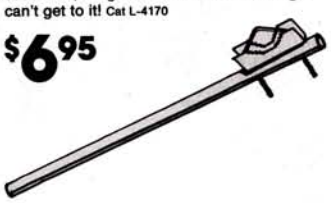
$11.95

Shipping weight: 85g
Shipping size: 700 x 20 x 70mm

Vertical Stand Off Mast

Here's a great idea! Changes mast plane for reverse polarity. Designed for those areas where standard antennas can't normally be used. Yes, it's galvanised so the rust bugs can't get to it! Cat L-4170

$6.95



Shipping weight: 190g
Shipping size: 390 x 50 x 40mm

TV Mast Pipe (approx. 2.4m)

This is a 2.44m mast section galvanised and rustproof. A conventional way of mounting your TV antenna. Ideal for use with any wall mounts and chimney mounts illustrated on this page! Diameter: 27.5mm. Cat L-4156

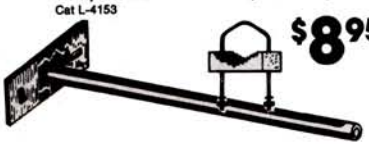
$8.95

Shipping weight: 1kg
Shipping size: 240 x 80 x 235mm

69cm Wall Mount

69cm long, used for mounting vertical mast sections up to 5cm in diameter. Complete with saddle clamp assembly. Cat L-4153

$8.95



Shipping weight: 750g
Shipping size: 710 x 200 x 30mm

Saddle Clamp

Ideal for loose horses and antenna mast pipes, etc. Galvanised for long, long life!

Beats using fence wire and old pieces of string! Designed for holding two pieces at right angles: eg. mast pipe onto mount, or antenna onto mast pipe. U and V clamp combined in one unit. Cat L-4165

Shipping weight: 44g
Shipping size: 80 x 55 x 5mm

$1.95

Antenna Signals working to the highest standards of quality and design for ALL Australia.

ANTISIG PTY LTD

PROUDLY MANUFACTURED IN AUSTRALIA

Antennas

In-Line Amp/VCR Booster

The output signal from video recorders is often too low for optimum performance on many TV sets. Or you may find degradation when trying to run more than one TV. The solution: just connect this nifty little in-line amplifier between your VCR & TV. It boosts the signal level to give clearer, crisper viewing. And the best part is it simply plugs into your existing system. Also ideal for boosting signal on long coax feed lines. Cat L-4202

Shipping weight: 100g
Shipping size: 120 x 210 x 30mm

- 5-950MHz
- 10dB gain
- Requires just 9V at 100mA (our M-9525 is ideal).

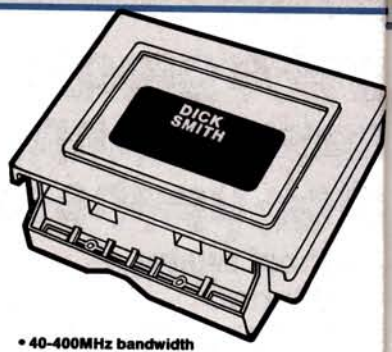
$29.95

Crook Pic? Fix it quick!
Mast Head Amplifier

Poor signal? Lousy picture? We can't help you with the rubbish the TV stations put out, but we might be able to help fix a poor signal! The DSE Masthead can make an unbelievable difference: it amplifies the signal right at the antenna — where there's less noise, giving you more oomph and allowing a longer lead in, too. Two piece unit includes amplifier box and power supply (240V operated — draws negligible current). Cat L-4200

Shipping weight: 356g
Shipping size: 150 x 80 x 120mm

$75



- 40-400MHz bandwidth (covers VHF TV and FM radio)
- 24dB gain
- 75 ohms input and output (suits coax)
- Zero gain at 27MHz (for CB interference suppression)
- Includes power supply

Standoff Assembly

Complete with standoff and strap assembly. Used for standing cable off mast sections. 8.8cm long. Holds ribbon or coax. Cat L-4512

$1.50

Nail-in Cable Clamps

Ribbon Type

Suitable for running flat ribbon cables on walls, skirting boards etc. Gives a neat professional job. Cat L-4514

45¢

Coax Type

As ribbon type but suitable for coaxial cable. Cat L-4515

10¢

Coax Clamp Bargain Pack

In a pack of 25, about the right number for a proper installation. And look how much you save! Cat L-4516

90¢ Shipping weight: 25.5g
Shipping size: 145 x 75 x 15mm

TV Cable 300 ohm Flat Ribbon

Low loss 300 ohm ribbon for good signal areas. Cat W-2070

30¢ per metre
Bulk price for 100m roll $27

75 Ohm Coaxial Cable

New! Ultra-low-loss air dielectric 5C-2V. Suitable for long runs where minimum loss is required. Black coloured. Cat W-2082

75¢ per metre

4-way Splitter for 300 ohm ribbon

Handles either colour or black and white TV with absolute minimum loss of signal strength even when all sets are operating at the same time. Compact plastic case can be mounted at any convenient location near antenna lead. 300 ohms input/output impedance.
NOTE: If all inputs are not being used at once, a 330 ohm resistor should be placed across the unused outputs. Covers 50-890MHz. Cat L-4220

(10 up.....$5.85)

$7.25

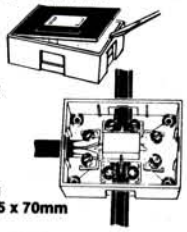
Shipping weight: 70g
Shipping size: 70 x 110 x 35mm

2-way 300 ohm Splitter

As 4-way splitter but 2 sets only. Covers 50-890MHz. Cat L-4218

(10 up.....$3.35)

$4.20



Shipping weight: 70g
Shipping size: 60 x 35 x 70mm

2-way Coax Splitter

A nifty little splitter/combination for indoor use. Fitted with standard TV coax plugs and sockets just plug it in without any messy wiring. Normally used for 2 TV sets from one antenna, but can also be used 'backwards' to combine two antennas into one TV set. Cat L-4270

$2.75
10 up $2.20

Shipping weight: 23g
Shipping size: 40 x 50 x 115mm

In Line Joiner "Two-way" Socket

Cat P-2070

$1.40
10 up $1.26

Panel Socket

Cat P-2040

$1.10
10 up 95¢

Guy Wire

7 strand x 0.9mm, heavily plated steel guy wire for all antenna and mast support work. Breaking strain over ten tonnes. Cat L-4564

$44

Shipping weight: 6.8kg
Shipping size: 300 x 300 x 80mm

30mm Guy Clamps

Simple saddle clamp to hold the guy assembly in one place. For maximum security and safety. Cat L-4528

$4.40

Shipping weight: 70g
Shipping size: 70 x 65 x 32mm

30mm Guy Rings

Takes either three-way or four-way guying. Circular (donut) style ring with holes for thimbles. Overall size 100mm diameter, suits mast diameters up to 32.5mm. Cat L-4524

$2.15

Shipping weight: 142g
Shipping size: 100 x 100 x 30mm

8mm Thimbles

Use wherever guy wires have to turn corners or tie off (eg on guy rings or turnbuckles). Makes the wire take a larger diameter, prevents chaffing and adds to overall safety. Cat L-4530

80¢

Shipping weight: 6g
Shipping size: 35 x 19 x 8mm

8mm Turnbuckles

Get the correct tension on your guy wires. 8mm turnbuckle is 94mm long, standard hook and eye ends. Heavily plated for long corrosion-free life.

Cat L-4544

$1.65

Shipping weight: 950g
Shipping size: 240 x 165 x 105mm

Wire Clamps

Grips guy wires tight: stops cables parting or fraying, too. Mini 'saddle clamp' assembly, holds wire up to 7mm. Cat L-4522

70¢

Shipping weight: 15g
Shipping size: 24 x 23 x 12mm

9 metre Telescopic Mast

Just what you need to get the TV antenna up above the roof, up above the power lines, up above interference. Complete assembly-guy rings and thimbles included.
Ready to put up and enjoy better reception. Mast will accept our rotator if you want the best reception. Cat L-4520

$110

35mm Ferrule

Used to hold guy ring in place. Takes mast diameter up to 35mm, heavily galvanised steel tube 50mm long. Cat L-4526

80¢

Shipping weight: 57g
Shipping size: 50 x 37 x 40mm

Dyna Bolt Eye Pack

Secures antenna mast firmly to concrete, brick walls. Eye rings hold antenna cable — prevents lose swinging which may effect picture quality. 8 x 45mm. Packet/2. Cat L-4575

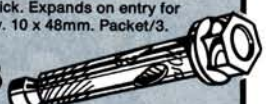
$2.95

Shipping weight: 51g
Shipping size: 75 x 180 x 30mm

Dyna Bolts

Hexagonal bolts secure antenna mast to concrete, brick. Expands on entry for total stability. 10 x 48mm. Packet/3. Cat L-4570

$2.95



Shipping weight: 103g
Shipping size: 180 x 93 x 30mm

Phone-type Duplex 2- Station Intercom

- **Wireless — no messy installation**
- **Fully automatic - no buttons to press**

Here's the answer to most home, office and factory communication needs — especially noisy areas: a phone-style intercom that's a breeze to set up and use. Just plug each station into any power point on the same phase. To talk, simply lift the handset and use like an ordinary phone: full duplex operation means automatic 2-way operation... no buttons to press or hold. Conversations are kept confidential. And it's perfect for noisy areas — factory floors, etc. — where ordinary intercoms are less effective. Attractively styled, each station can be wall or desk mounted (includes rubber pads to prevent scratching). Cat F-1015

Shipping weight: 1.930kg
Shipping size: 227 x 100 x 285mm

$139 PR

2-Station/ Monitor System

Fully transistorised system that's effective up 160 metres. Both master (which has a volume control) and slave can be contacted even if the system is turned off: ideal for nursery or sick room monitoring. Includes 16 metres of cable. Cat F-1025

Shipping weight: 423g
Shipping size: 285 x 190 x 40mm

$27.50 PR

Wireless Monitoring System

There's a practical use around the home or office for this versatile, wireless system. As an electronic babysitter, you can carry on with work while hearing every sound. It's ideal for sick rooms too! Set up a 'caller' security system — similar to secured apartment blocks — for your front door. And it can double as a 'one way' intercom for simple requests in workshop-to-house or office-to-factory situations. Cat F-1018

Shipping weight: 798g
Shipping size: 200 x 95 x 170mm

$99 PR

Expandable FM Wireless Intercom

A system that grows with your needs. Start with our low priced, 2 station system. As your demands increase, so does the system — easily! Add up to 6 stations allowing three simultaneous but private conversations. Built-in squelch for superior sound. Use on any power point on same phase. Cat F-1013

Shipping weight: 1.325g
Shipping size: 315 x 65 x 265mm

$79.95 PR

Multi Voltage Power Supply

Perfect for battery powered intercom systems — saves a small fortune! Provides 3-6-9-12V at 1 amp. Overload protected.

Shipping weight: 720g
Shipping size: 195 x 70 x 90mm

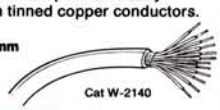
$32.95 Cat M-9530

12 Conductor Cable

Premium multi-wire circuit cable — the type used by Telecom. Perfect for intercom set-ups: individually insulated, colour coded with tinned copper conductors.

Shipping weight: 5.521kg
Shipping size: 240 x 240 x 120mm

$1.55 per metre



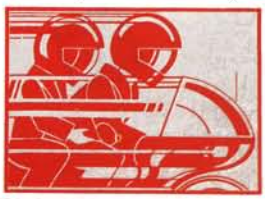
Cat W-2140

Talk about convenience: 4 Station Intercom System.

The economical way to enjoy maximum intercom coverage: four stations at a very low DSE price! One "master" and three "slave" system — any slave can call master and vice versa. Each slave station offers convenient 'hands-free' conversations for note taking or looking up information. And even if the Master station is turned off, a slave can contact it — saves battery life! Battery operated, each slave comes with 16 metres of cable. Cat F-1040

Shipping weight: 1.122kg
Shipping size: 380 x 50 x 160mm

$39 SET



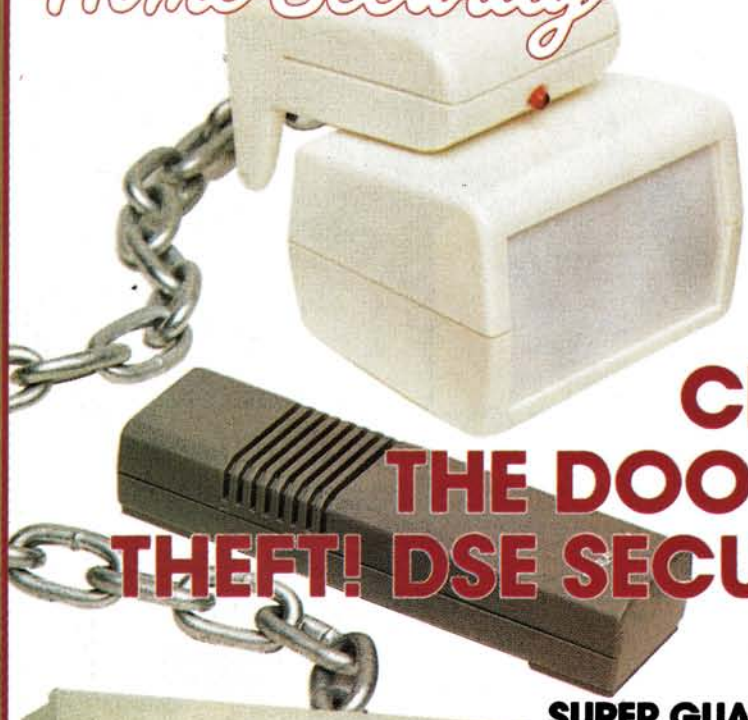
Motorcycle Intercom

Rider and Pillion can keep in touch. Cat F-1000

$99

Home Security

Breathe easy! DSE has everything you need for total security. Professional advice, service and a comprehensive range of systems to suit any budget.

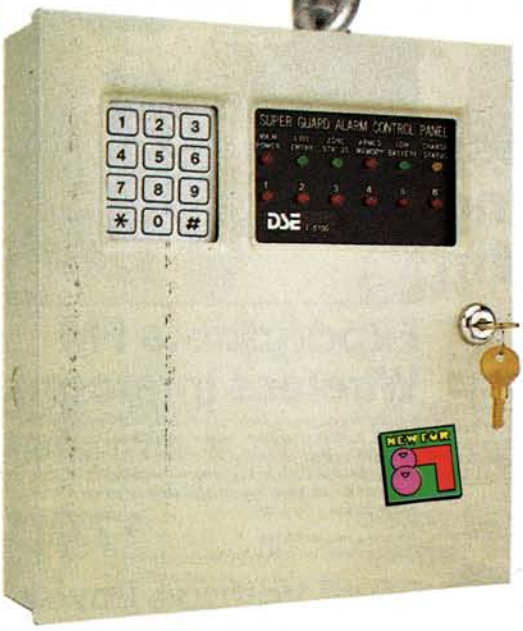


CLOSE THE DOOR TO THEFT! DSE SECURITY

Ultrasonic Alarm
for single room protection

The inexpensive way to guard those valuables. A versatile, self-contained alarm unit which emits an elliptical sound beam covering an average size room. Any intruder breaking the beam will trigger the alarm. Has built-in alarm or can be wired to an external speaker/siren. Ideal for apartments and single room protection! It's easy to install too — just plug it into any mains power outlet. Cat L-5108

$139



SUPER GUARD — 6 Sector Controlled Security

Faster than a speeding bullet. More powerful than six meatheads at a disco door. 'Super Guard' the 6 sector professional security system. It's like having a Super Hero of your own! For the home, office, factory, workshop — anywhere. Super Guard offers front-line protection with total control in six independently controllable sectors. Keep a watchful eye over your entire property or just one or more sections with Super Guard versatility. The outstanding features of Super Guard include: • **digital keypad for over 5000 personal keycode combinations • 6 independent supervised zones compatible with both N.O. and N.C. sensors or switches • 24 hour supervised emergency fire/panic zone • built-in front and rear anti tamper device**
• **wrong code number lock out feature • adjustable entry/exit/alarm duration, 6 LED alarm status report • 6 LED zone memory indicators, built-in siren driver output circuit**
• **built-in advance automatic charge unit • operational remote multi-function Digicode Switch • and much, much more!** If Clarke had known about this he could have left Lois alone now and then. Cat L-5105

Shipping weight: 4.82kg
Shipping size: 345 x 315 x 130mm

$249

'Don't Touch' Safety Alarm

$12.95

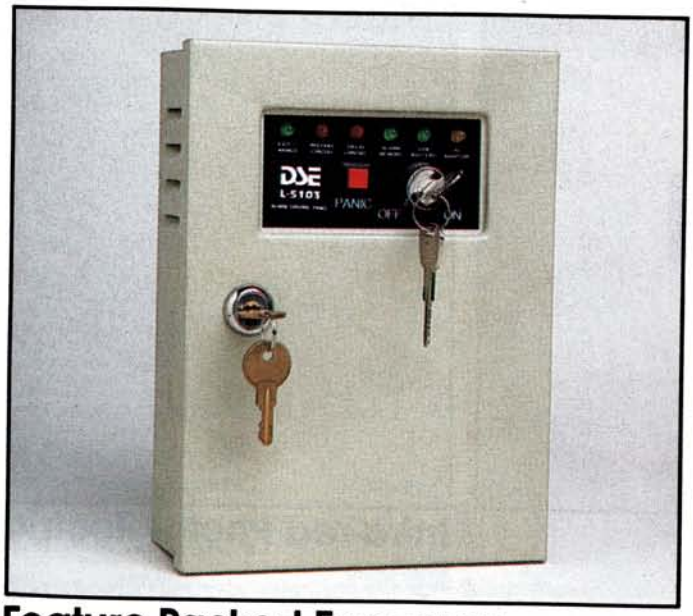
A fantastic idea! Place Don't Touch in drawers and cabinets and if they're opened a light sensitive sensor is activated and the alarm sounds. Ideal for the medical cabinet, kitchen or workshop drawers, etc. Can be used to warn parents if kids should get into potential danger! Use it to protect valuables and confidential information in office cabinets and drawers. No installation required; simply mounts inside cabinets, etc with double-sided tape (included). Cat L-5086

Digicode Remote Control Panel

Remotely arm or disarm your Security Guard alarm control panel. Digicode panel can be fitted in another part of the property so you don't have to enter the surveillance field to control your alarm. Lessens the chance of accidentally tripping the alarm. Features include automatic 'Lock Out' and anti-tamper switch! Cat L-5101

Shipping weight: 265g
Shipping size: 125 x 110 x 50mm

$49.95



Feature Packed Economy
DSE Four Sector Alarm

Intended primarily for domestic or small business use this quality system has all the features of the big ones! Total four sector security which is more than enough for the average home, small factory, office, etc. Features include 2 N.O. sectors (instant/delay), 2 N.C. sectors (instant/delay). Provision for rechargeable or Alkaline battery backup and remote keyswitch with tamper protection. Six LED display panel, including alarm memory to indicate previous alarm state, gives you an up to date alarm status report. And that's not all — you get 24hr panic/fire siren duration adjustment, 0.5-3 minute burglary siren adjustment, panic button, heavy duty metal case with keyswitch and much more! Batten down the hatches now — before it's too late. Cat L-5103

Shipping weight: 2.22kg
Shipping size: 220 x 290 x 125mm

$120

NEW FOR 97

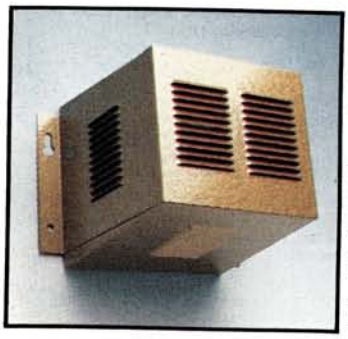
CONTROL 444444444...!
The Affordable Professional System

The latest in electronic technology and concept, versatile enough for commercial use yet affordable for home use. The Control 4 is a complete 4 sector alarm panel with panic or emergency sector, With provision for a wide range of options which can turn it into a formidable and secure alarm package. Advanced features include adjustable entry, exit and alarm times, 4 inputs PLUS 2 end of line, allows connection to remote keyswitch or codepads for added security, monitors both mains power and standby battery against failure, emergency/panic button, allows silent access for authorised people, allows 24 hour circuits to be monitored (fire, medical, hold-up, freezers, etc.), provision for 'At Home' Entry Guard feature, provision for dialler and just about every feature you're likely to ever want! Comes complete with DC adaptor. With Control 4 — you won't need any more. Cat L-5106

Shipping weight: 4.75kg
Shipping size: 320 x 290 x 90mm

$299

NEW FOR 97

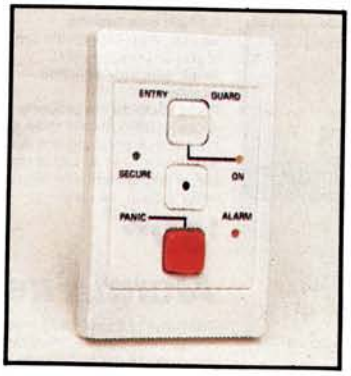


Alarm Horn Cover & Tamper Switch

Stop crooks disabling your alarm! They can't cut the wires to your horn speaker — and if they try the alarm goes off! Heavy duty louvered steel cover fits over horn speaker. Cat L-5300

$19.95

Shipping weight: 9g
Shipping size: 250 x 195 x 170mm



Sleep Safe and Sound with Entry Guard

NEW FOR 97

Designed for use in conjunction with the Control 4 security system Entry Guard allows you to use your alarm while you're at home. It allows you to monitor one or more sectors of the house (say the perimeter sensors) while others are ignored. Incorporates 24 hour panic button for emergency use. You can even activate an optional plug-in dialler! Cat L-5107

Shipping weight: 164g
Shipping size: 76 x 122 x 46mm

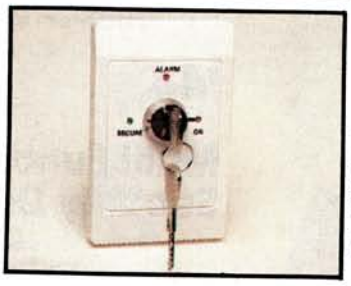
$79.95

Mini Sensor Alarm

Individual security for doors, windows or cupboards and cabinets. Simply fix the sensor to any surface with the magnetic reed switch screwed secure. Any attempted entry sounds an ear piercing alarm which will deter anyone. Battery drain (requires 9V battery) is so minute, it guards for long periods without the need to replace the cell. Cat L-5185

$10.95

Shipping weight: 68g
Shipping size: 140 x 55 x 30mm



Remote Keyswitch

Help eliminate accidentally setting off the alarm! The CP1 remote keyswitch can be mounted out of the surveillance field of your alarm sensors (eg in the garage, garden, verandah) so you can arm and disarm your system remotely. With tamper switch and three LED status report. Cat L-5104

Shipping weight: 134g
Shipping size: 220 x 110 x 45mm

$79.95

NEW FOR 97

Home Security

Invisible Intruder Deluder
Passive Infra-Red Detector

It's like passive resistance using a 45mm cannon — it'll stop them in their tracks! Passive infra-red detectors are generally acknowledged to be the best movement detectors of all. The DSE Passive Infra-Red Detector with wide angle detection is fantastic value and offers the ultimate in versatility. Designed for indoor use it can be ceiling or wall mounted and with special mounting bracket (supplied) and swivel head, it can be positioned for optimum performance just about anywhere. Unit provides protection for an area of up to 6m x 6m which is more than adequate for home, office, factory... anywhere! Operates from 12V DC — supplied normally from alarm controller. With 90° protection arc, tamper output and walk test LED — it's as safe as houses! Cat L-5009

Shipping weight: 320g
Shipping size: 120 x 120 x 95mm

$89.95

Heat Sensor

If heated, contacts close to trigger alarm. Can be used on 'fire' contacts of some alarms, or 'N/O' contacts of others with instant triggering. Cat L-5254

$12.95

Panic Switch

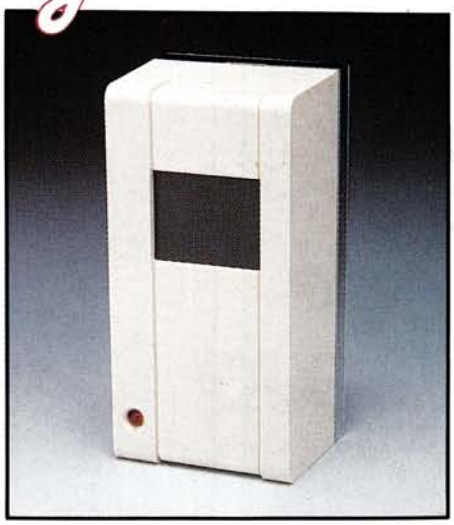
Ideal for people living alone, invalids, etc. If in trouble, hit the panic switch. Your burglar alarm will go off instantly! Use with any burglar alarm system. Cat L-5285

$3.85

Pressure Mat

Hide under carpet — it's only a few millimetres thick so it's almost impossible to detect. When trodden on it closes the contacts inside the mat to trigger an alarm. Can also be used in shops as a customer detector with one of our buzzers and a battery. Cat L-5270

$25



Passive Infra-red

The best movement sensor — by far — is the passive infra-red. This is the type used by banks, building societies, factories, etc. where security is paramount. Works by detecting movements in body heat — with up to 25 metre range (corridor model). Dual element sensors help minimise false alarms (a bane of many movement detectors) and the infra-red is available in two models: wide area coverage and long (corridor) coverage. Can be adjusted to very fine tolerances so pets, etc. do not set it off — and the sensor itself is fitted with tamper protection just in case. Size is just 61 x 47 x 123mm; operates from 12V DC (normally supplied by alarm controller). Cat L-5012

$149.95

Flashing Strobe

A new idea... and a beauty! A bright blue flashing 'strobe' lamp (like on the top of you-know-what cars!) which demands absolute attention.
Placed outside the property (say under the eaves of the house) it will instantly show neighbours, Police, etc. where the alarm is occuring (it's not always easy to tell from which direction a siren or bell is coming!) Operates from 12 volts: use in conjunction with virtually any alarm controller via 'relay' output. Cat L-6000

$39.95

Alarm/Fire Bell

They won't hang around when this one goes off! Used in conjunction with alarm relay outputs. The 205mm bell has a massive gonger built inside where it's harder to tamper with. Operates from any 12 volt supply (draws 300mA). There may be a lot of stupid burglars around, but few of them are deaf. Cat L-5280

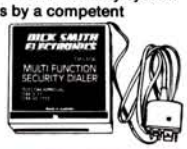
$44

Multi Function Security Dialler

State-of-the-art in security devices! The Multi Function Security Dialler provides for connection of your security system to the telephone line and automatically dials your preselected number when the the alarm is sounded. It will dial your security service, yourself, relatives — anyone! Designed for direct connection to the L-5106 security system or can be connected to most systems by a competent technician. Cat L-5130

Shipping weight: 530g
Shipping size: 155 x 140 x 115mm

$249



Infra-red Photo-electric Relay

Burglar alarms. Door Minders. People Counters. The applications are endless! Infra-red transmitter/receiver mounting in one unit, with reflector (supplied) to send the beam back. A sensitivity control allows 'fine tuning' to suit the location. Mains powered, with a 12V DC @ 1A output when the beam is broken. Two modes possible: instant (output while beam is broken) or intermittent (5 second output after beam is broken). Use to drive siren, bell, etc. or to trigger main alarm. Cat L-5050

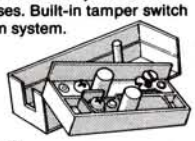
- **Range 0.8-15m**
- **Minimum detection area 2.5cm square**

$129

Vibration Sensor

An excellent sensing device to be used with close-circuit alarm systems. Detects any vibration or shock caused by forced entry to ceilings, doors, windows, cabinets, safes, glass surfaces, etc. and sets off the alarm. Adjust vibration sensitivity to suit individual purposes. Built-in tamper switch for independance from main alarm system.

$6.50
Cat L-5250



Aluminium Sign

245 x 170mm heavy duty sign, ready to warn them away in no uncertain terms. 22 guage aluminium, screen printed in bright fire-engine red. Suitable for screwing to wall, fastening to fence, etc.

$4.95
Cat L-5312

Window Sticker

With inside adhesive (sticks to the inside of glass) for all your windows and glass doors. Size 130 x 60mm. Cat L-5311

$2

Barrel Switch

For external control of car and home alarms. One hole mounting, two keys supplied. Cat L-5290

$8.75

Mini Barrel Switch

The barrel key switch for when key protection is desired but space is in short supply. Cat L-5295

$9.75

Who can install an alarm?

You can!

It's not a daunting task at all: with the comprehensive instructions supplied virtually anyone can install a fully professional alarm system — vital protection for your family and your possessions. What's involved? Essentially three main sections:

(1) The Sensors

Various types of sensors from simple switches to highly sophisticated people detectors — all have one task: to sense an intrusion and let the alarm controller know about it!

(2) Alarm Controller

Its job is to take the output from the sensors and act upon it — in accordance with "instructions" previously given. It could turn on a bell or siren, light lights, ring a telephone number, etc etc. The alarm controller is the "heart" of the system.

(3) Output Devices

An intruder hates two things: noise and light — because they draw attention! Therefore, most output devices involve making sound or light — bells, sirens, strobe lights, etc. There are others, however, such as telephone diallers, security cameras and recorders, etc.

Connecting an alarm

No special knowledge or skills are needed — the instructions which come with the alarm system explain it all. You can make your alarm system as simple or as complex as you wish. And you can add to it later if you find more areas need protection.

And best of all?

Actually there are two "best of alls"!

(1) No-one else need know your security plans — because you're the only one who knows your system. That makes it so much harder for an intruder.

(2) You'll save a fortune! Installing your own alarm means you save labour costs — your system for, say, just a couple of hundred dollars or so could be at least as good (probably better!) than a commercially installed system costing $1000 or more!

And yes, you can do it yourself!

Timer Module

A neat unit that can be added to an existing system to give an adjustable automatic turn off. (Comply with noise pollution laws!) Features an indicator light to show alarm has been triggered — even after turn off. Controls bells, sirens, etc. Cat L-5110

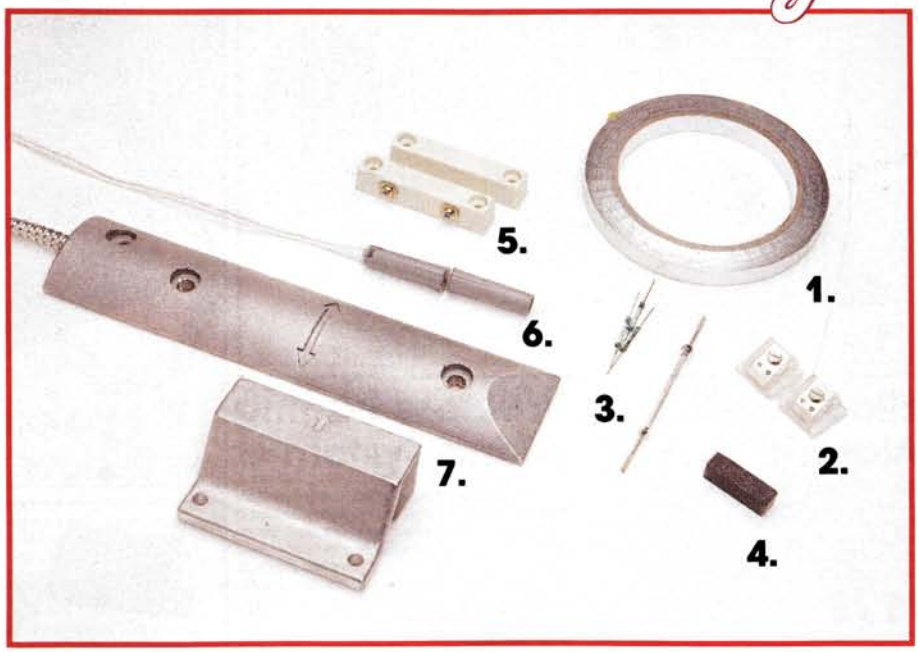
$19.50

Siren Driver

Turns any horn speaker into a siren! Will deliver an ear-splitting 103dB @ 1m wail from a 12V supply (when used with C-2705 horn speaker). Use in conjunction with any controller if it doesn't have siren output. Cat L-5115

$19.50

Shipping weight: 82g
Shipping size: 90 x 60 x 47mm



Normally Closed Detection Sensors

1. Window Foil

Very fine, adhesive backed aluminium foil which adheres to window or door glass. Forms part of detection loop; if glass is broken foil breaks, setting off the alarm. Also great for sticking on sliding doors to show they're there! 6.5mm wide, 32m per roll. Cat L-5200

$10.95

2. Foil Terminals

Termination points for window foil to alarm wires. Self adhesive, screw terminals connection. Cat L-5205

Shipping weight: 2.5g
Shipping size: 25 x 10 x 10mm

95¢
10 up 85¢ each

3. Normal Reed Switches

Cat L-5215

Shipping weight: 2.2g
Shipping size: 80 x 4 x 4mm

$2.95
10 up $2.65

4. Magnets to suit above

Cat L-5214

Shipping weight: 323g
Shipping size: 70 x 40 x 25mm

$2.15
10 up $1.95

Reed Switch/Magnet Sets

5. Surface Mounting

In plastic cases, ideal for aluminium doors and windows. Includes screw holes for mounting, screw terminals for alarm wires. Cat L-5210

10 up $3.50

$3.95

6. Concealed Mounting

Mount inside 11mm hole completely inside door or window and frame. Completely hidden when door or window is closed. Very effective! Cat L-5212

Shipping weight: 753g
Shipping size: 330 x 180 x 45mm

$4.35
10 up $3.90

7. Roller-door Reed Set

For roller and overhead doors. Easily mounted with need for additional brackets. Very low profile on floor. Cat L-5220

Shipping weight: 308g
Shipping size: 190 x 135 x 65mm

$32.95

Personal Remote Control

This hand-held transmitter is used to remotely control your Central Processor. Select the operating mode or use the panic button for emerg calls. Perfect control at push of a button without to raise yourself from you chair. Cat L-5129

$79

Shipping weight: 70g
Shipping size: 130 x 80 x 20mm

Remote Reed Switch

A magnetic switch and digital coding transmitter to use in conjunction with your Central Processor. The primary function of the switch is to protect entries and exits. When the magnetic connection is broken the transmitter relays the information to the processor which sounds the alarm. Cat L-5127

$79

$375

Hassle free installation!

Wireless Home Alarm

Five zone protection for your home and it's installed in no time — WITHOUT WIRING!! Simply plug it in, set the code on your remote devices — instant protection. Features instant/delay switch, four function modes, five zones, built-in speaker and provision for external speaker and heaps more! Ideal for units, flats, holiday homes, etc. Cat L-5125

Infra-red Sensor

The latest advance in intruder detection technology. Detects rapid changes in body temperature and transmits the signal to the central processor. Harmless to humans and animals. Each unit covers 64 sq. metres. And there are fewer false alarms! Features adjustable control zone window for precise detection. Cat L-5128

Shipping weight: 1.9g
Shipping size: 15 x 15 x 15mm

$129

Car Alarms

Elkron Ultrasonic Alarm 1.

Effective protection for your valuable car! Sophisticated ultrasonic system detects movement in cabin... alarm triggers either car horn or optional siren PLUS flashes car blinkers. Optional alarm inputs for doors, boot, bonnet and tilt sensors. Cat L-5083

$179

Wireless Paging Alarm System 4.

Fantastic paging system which can be used as a 'stand alone' alarm or connected with your existing car alarm for added protection! Once the alarm is triggered a coded signal is instantly transmitted to your personal pager: a quick call to the police may lead to an arrest! Features compact transmitter/alarm unit and pocket pager plus all hardware. Cat L-5094

$199

Big Mouth Car Alarm 2.

The ultimate in simplicity and the best in reliability. Big Mouth car alarm is a keyless fully automatic alarm with easy three wire installation. When the ignition is switched off — Big Mouth switches on. It works on voltage drop so once anything is switched on (interior light, etc) Big Mouth screams out. Comes with 2 pin switches for extra protection in bonnet, boot, etc. Cat L-5091

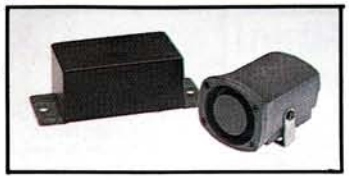
Shipping weight: 660g
Shipping size: 175 x 145 x 140mm

$39.95

Siren Speaker 3.

A great alternative when your alarm hasn't got a siren output. The siren driver is actually built into the back of the speaker. So you only need to connect power (eg via the alarm's relay output) to give an ear-splitting, penetrating wail that can be heard for blocks! It's ideal for use in cars, boats, trucks and vans, too. Mounting bracket and connecting cable supplied. Top value! Cat L-7026

$32.95



Cycle Sentry

Proud of your bike? Don't lose it to a stranger! With this compact alarm your bike is safe anywhere. Fits easily to any bike and gives a LOUD alarm if the bike is disturbed. Send them running and save your wheels. Cat L-5088

$99

Remote Switched Car Alarm

TOP CAT in the alarm stakes! This new remote switched alarm gives you a current sensing alarm with encodable transmitter key so you know nobody but you can switch it off. **Features include: • instant boot and bonnet trigger • remote switching with TWO transmitter keys • ignition cut-out • Battery back up capability (in case they cut the power) • 110dB siren • manual override.** And it gives beeps when you turn it off so you can find you car in that crowded car park. Features like this would normally cost three times as much. Cat L-5096

$139

RADAR DETECTORS

Not legal in some states Check local authorities.

Uniden RD-95 Remote 1.

Super sensitive K and X band detector designed for discreet installation. Separate weather-proof receiver can be mounted behind car's front grille so no one need ever know you have a detector fitted... why give thieves a chance! Features audible/ visible warning, LED signal strength meter.

Remote receiver: 80 x 28 x 60mm.
Receiver: 90 x 59 x 129mm.
Cat A-8499

$399

Pocket-size RD-9 Detector 3.

State-of-the-art radar detection packed into an ultra-compact,versatile unit. Measures a mere 70 x 18 x 107mm and weighs just 250g... the right size to comfortably fit in a coat pocket or purse! Features EDIT circuitry to filter unwanted signals (for truly accurate readings). Highway/City selector adjusts range to suit area conditions. 3-position Alert Mode for selecting either audible, visible or combine audible/visual warning. And the LED signal strength meter displays radar signal strength at a glance.
Cat A-8507

$499

2. Uniden RD35 Radar Detector

The super sniffer for X and K band radar. The ultra-sensitive E.D.I.T circuitry helps eliminate erroneous signal interference! The compact size (only 83x33x105mm) makes it ideal for dash or visor mounting. Features audio and visual alert, volume control and On/Off LED. Comes complete with mounting hardware, cigarette lighter adaptor plug and full instructions. Cat A-8511

$399

Shipping weight: 585g
Shipping size: 155 x 245 x 85mm

4. On Dash Mounting Bracket

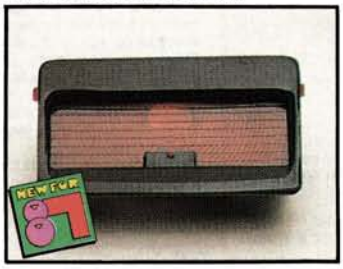
Suits Uniden RD-9 and some other brands. Check with DSE for expert advice... we know our radar detectors! Cat A-8512

$24

Uniden 'Bandit' 55

High sensitive detector — both K and X bands — that offers fully automatic operation! Features LED signal strength meter, audible and visual warning and City/Highway adjustable range. **Sensitivity: 113dBm/cm² (K band), 103dBm/cm².** Cat A-8501

$399



All Stop Brake Light

Research has shown that a single, eye level brake light helps dramatically reduce rear-end collisions. This easy to install brake light could save you time and money! The adjustable lens and universal bracket allow it to fit most cars for safer motoring. Cat A-8524

Shipping weight: 285g
Shipping size: 145 x 105 x 95mm

$13.95

COMPRESSION TESTER

There's no need to spend a fortune on mechanics — with the DSE Compression Tester you can keep your car in tip-top shape! The compression tester measures the efficiency of your motor and helps identify burnt valves, worn or broken rings, faulty head gaskets, worn or broken valve springs, etc, etc. Keep your valuable machine in prime condition; it pays off when you're ready to change models. Comes complete with instructions, test procedures and universal adaptor to fit any car. Cat A-7460

Shipping weight: 390g
Shipping size: 230 x 130 x 55mm

NEW FOR 97

$19.95

For the one man workshop

Just what you need when you're working on the car and there's no-one to give you a hand! The Remote Starter Switch allows you to crank the motor from under the bonnet. Many tests and adjustments require the motor be cranked over and it's much safer when you do it yourself. Special safety design means there's no chance of accidentally operating the switch. Comes with insulated clamps, 1 metre cable and full instructions. Cat A-7465

Shipping weight: 190g
Shipping size: 230 x 130 x 55mm

NEW FOR 97

$9.95

Auto Inspection Lamp

A compact 12 volt DC lamp which is ideal for the car, truck, camper, etc. High intensity lens provides concentrated beam which is ideal for emergency repairs. Comes complete with built-in hook, cigarette lighter adaptor and 6 metres of lead. Cat A-8506

Shipping weight: 170g
Shipping size: 200 x 75 x 60mm

$5.50

The Complete Mechanic

Everything you need for a professional tune-up on your car. Save money, save petrol and maintenance costs, get better performance! Kit comes complete with Dual-Beam Timing Light, Compression Tester and 7-Function Analyzer for voltage, dwell, points, RPM, resistance... the lot! Suitable for all 12 volt, 1-8 cylinder cars, trucks, tractors, vans, RV and marine gasoline engines. Both Analyzer and Timing Light have inductive pick-ups for easy, safe connection — even while the engine is running! Buy one for mum, it'll get her out of the kitchen. Cat A-7475

Shipping weight: 1850g
Shipping size: 440 x 360 x 70mm

NEW FOR 97

$119.95

For best performance — get your timing right!

A must for the home, garage, workshop, etc. The Dual Beam Xenon Timing light will help get your car running in peak condition. Features prefocussed common axis spotlight for illumination in the dark, high precision spark advance control, double check indicator tests for incorrect hook-up, heavy duty circuit operates to 12000 RPM, inductive pick-up for easy, safe, fast hook-up, full instructions, 4 metres of lead and more! Give one to dad and he might stay in the workshop and out of your hair. Cat A-7470

Shipping weight: 730g
Shipping size: 380 x 235 x 80mm

NEW FOR 97

$59.95

Shipping weight: 685g
Shipping size: 270 x 230 x 90mm

$69.95

10 function Engine Analyzer

NEW FOR 97

Optimize engine performance and maximize fuel economy! The 10 Function Analyser is a professional quality test device for reliable and accurate automotive use. **Checks: • Idle speed and carburettor adjustment • Adjusts ignition contact points (replaces old inaccurate feeler gauges) • Tests battery condition and electrical systems • Tests generators/alternators • Tests high tension leads and coil • provides simple method for troubleshooting. Comes with comprehensive instructions and all connecting leads, etc.** Cat A-7480

Super Bright Driving Light

Wish I may Wish I might, not run into a cow tonight!

Exceptional value for quality Quartz Halogen driving lights! Two great models to choose from. Both are powerful 100 watt and come complete with wiring harness, in line fuses, relay, illuminated toggle switch, wire connector, bolts — everything you need! **150mm round model.** Comes with heavy duty plastic protective cover. Cat A-8528

Shipping weight: 1800g
Shipping size: 440 x 245 x 135mm

$39.95

NEW FOR 97

130 x 70mm rectangular model in chromium finish. Cat A-8527

$39.95 **Shipping weight: 1480g**
Shipping size: 375 x 175 x 85mm

Universal Mounting Brackets

Beautifully finished brackets in chromium and black finish so you can mount your driving lights without having to drill the bumper bar. Cat A-8529

Shipping weight: 340g
Shipping size: 180 x 165 x 60mm

NEW FOR 97

$5.95

The latest electronics gadgets for your car

Fluid Level Monitor

Protect your car's heating system. Comes with sensor unit for overflow tank from the radiator or the washer reservoir. You know when it's low: before damage! Cat A-8534

$19.95

Battery Monitor

Keep check of your battery. Coloured LEDs indicate rate of charge or discharge. Buzzer sounds if battery runs low. Mounts neatly on dash. Cat A-8536

$19.95

Amber Warning Light

Revolving emergency signal light for car, truck or marine use. Magnetic base for easy fixing to any metal surface. 3.6 metre coil cord and cigarette lighter plug. Cat A-8510

$39.50

Headlight Reminder

Easy to install, it reminds you when you've left the headlights on. No more flat batteries and push starts. Cat A-8509

$15.50

Interior Light Delay

Delays interior light shut off when car door closes. Provides time to find keys and seat belts. Turns off automatically. Easy to install on any 6-12-24 volt system. Cat A-8532

$16.50

SHARP

NEW FOR 87

$229

You haven't heard it like this before!

RG-F263

How do they do it at this low price? The Sharp RG-263 stereo cassette combines features and style you'd only expect to find in machines at twice the price. Look at this; auto reverse, 3 band graphic equaliser, automatic program search system, automatic noise suppressor system, 3 band radio reception, mono/stereo switch and lots more! Cat A-8995

Specifications: Tuning Range: LW; 150kHz to 285kHz MW; 526.5kHz to 1606.5kHz FM; 87.6 to 108MHz
Output power:8 Watts per channel
Ouput Impedance: 4 ohms
Frequency response: 50-14000Hz
Shipping weight: 1.6kg Shipping size: 210 x 145 x 80mm

NEW FOR 87

$495

RG-F857A
With AM Stereo

If they packed any more features into these you'd need a truck to carry them. Take a look — Auto reverse, Dolby, AM stereo, 4 band graphic equaliser, synthesizer auto tuning, automatic station program memory, auto program search system, LCD digital display... the list goes on! All this and still it's the ultimate in simplicity to use; Cat A-9015

Specifications: Tuning range: FM; 87.5MHz to 108MHz AM; 531kHz to 1602kHz
Output power:25 watts per channel
Output impedance: 4 ohms Power source:DC 12 volt
Shipping weight: 1.6kg
Shipping size: 225 x 175 x 80mm

NEW FOR 87

RG-F887G

Audio sophistication and a built-in security system top-of-the-line in the Sharp range. An unbelievable array of features like, 5-memory automatic station program, auto program search system, 7-band graphic equaliser, 3-band tuner, fader control, auto reverse and even a blank tape pass system which changes the mode to APSS after 12 seconds of blank tape. You don't need to do anything — the RG-F887G does it all for you! That's not all. There's a built-in alarm which wires to your car horn — just in case someone tries to pinch this amazing system. Cat A-9020

Specifications:
Frequency range: FM; 87.5 to 108.0MHz
MW; 531 to 1602kHz LW; 153 to 281kHz
Frequency response: 40-16000Hz (CrO2)
S/N ratio: 60dB (Dolby NR on)
Output power: 2-speaker system; 25W per channel
4-speaker system; Front — 8W per channel Rear — 8W per channel
Shipping weight: 1.6kg Shipping size: 220 x 180 x 80mm

$599

CP-FA10 Full-Range Speaker System

The economy speaker which doesn't skimp on quality! Flat diaphragm, square design speakers with 40W per channel maximum input power. Light on price but giving a full bodied sound. Cat A-9030

- **40W per channel**
- **100cm squared full range speaker**
- **Square-type, flat diaphragm speaker with honeycomb core.**
- **122 x 122 x 15mm**
- **0.4kg (per unit)**

Shipping weight: 1.209kg
Shipping size: 240 x 160 x 80mm

$99

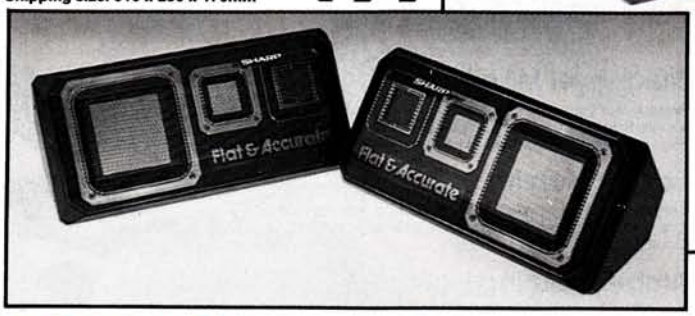
CP-FA20 2-Way closed speaker system

Great value rear shelf mounts which put dynamics into your car system. At 40W per channel input they'll handle just about any system — but why not team them up with one of our fantastic Sharp cassette players? Cat A-9040

- **40W per channel maximum input power**
- **110cm squared woofer**
- **3.5cm tweeter**
- **Impedance; 4ohms**
- **Frequency range; 150-35,000Hz**

Shipping weight: 2.857kg
Shipping size: 310 x 250 x 170mm

$199



CP-FA30
3-Way Closed Hi-Fi Speaker System

Closed, rear mount systems produce great dynamics. This system uses the square-type flat diaphragm woofers for improved bass response. Couple this with 60W input power and you'll never want to get out of the car. Cat A-9060

- **60W per channel maximum input power**
- **Square, flat diaphragm woofer with honeycomb core**
- **100cm squared mid-range**
- **3.5cm tweeter**
- **288 x 120 x 161mm**
- **1.7kg (per unit)**

Shipping weight: 4.095kg
Shipping size: 310 x 310 x 170mm

$299

CP-90LR
3-Way Omni-Direction Swing Speaker System

Hold onto your hat! These pack more punch than a right cross. With 70W per channel input they give superb true-to-life sound reproduction. The mid-range, woofer and tweeter of the 3-way system give you the full spectrum of hi-fi enjoyment. Cat A-9050

- **70W per channel maximum input power**
- **16cm woofer**
- **5cm mid-range**
- **2cm tweeter**
- **188 x 102 x 169mm**
- **0.98kg**

Shipping weight: 2.479kg
Shipping size: 370 x 200 x 122mm

$229

We accept Bankcard, Visacard, Mastercard, Amex... even cash!

It's the ultimate budget conscious package. A complete AM/FM cassette player complete with matched surface mount speakers... all for a low $79.95. We won't pretend it's the best system you can buy — but you won't find better value anywhere. You can pay twice as much and you won't get this quality. The compact size readily suits in dash mounting and it's packed with all the most wanted features. Fast forward, balance tone controls...it's got the lot! Cat A-6025

Specifications:
TAPE
Wow and Flutter: 0.35%(WRMS)
Load Impedance: 4-16 ohms
Dimensions: 178 x 115 x 44mm
Weight: 1.2kg
Accessories: Mounting parts, Trim plate.

Shipping weight: 2.286kg
Shipping size: 580 x 250 x 100mm

A Complete Car AM/FM Cassette System for only $79.95!!

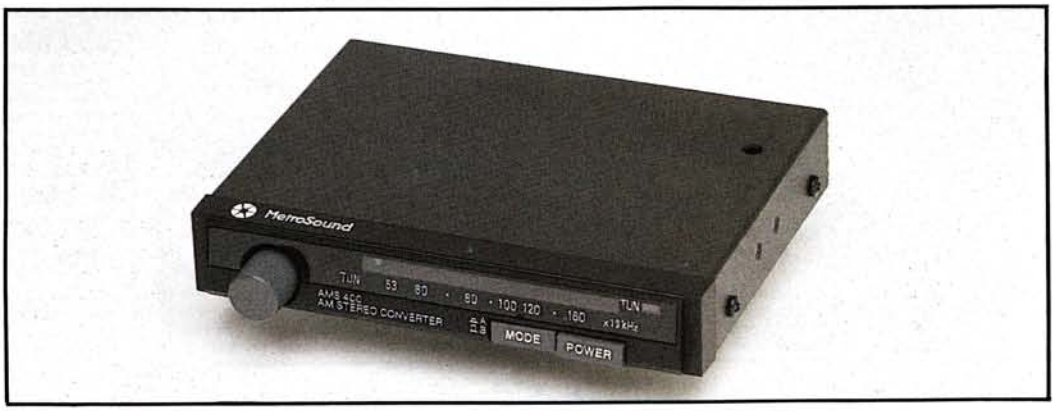
It has to be the best value in Australia!

AM Stereo Converter

Now you can have real AM stereo on your car radio! Just connect the converter to your existing car radio (with FM) and it's in the bag. The slim-line design looks fantastic in or under you dash. Comes complete with wire harness, and mounting hardware. Cat A-6030

Specifications:
Unit size: 150 x 112 x 25mm
Frequency range: 520-1650KHz
Output Frequency: 99.1 +/-1.5MHz
Power Source: DC 14V negative ground.

Shipping weight: 650g
Shipping size: 170 x 135 x 45mm



NEW FOR 87 **$69.95**

NF-1 3amp Noise Filter

There's nothing worse than turning on your car sound system and hearing your ignition system. Now the NF-1 Noise Filter can help to eliminate that noise! The silicon metal plate prevents noise from the car's wiring harness from reaching the playback head of the car stereo. It's easy to mount under the dash or in the engine bay. Cat A-7833

Shipping weight: 142g
Shipping size: 180 x 120 x 50mm

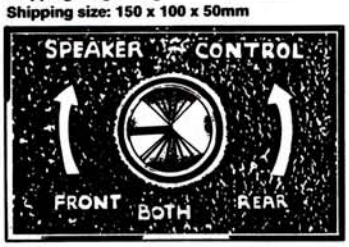
$9.95

Speaker Fader

There's nothing better than 4 speakers in your car but you'll need this fader control to adjust the front and rear volume separately for maximum comfort and sound quality. This high powered stereo fader controls two pairs of speakers up to 25 watts. Comes complete with facia mounting plate and cable. Cat A-7834

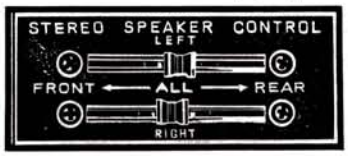
$22.50

Shipping weight: 79g
Shipping size: 150 x 100 x 50mm



Stereo Fader Control

Control your sound so it comes from either the front pair OR the rear pair of speakers OR both at once. Capacity — 10 watt maximum. Cat A-7832 **$14.95**



Hold down that noise!!

The Great Capacitor Hush

The all-time auto noise 'cure all'. This 0.5uF capacitor is designed to fit directly to noise source or noisy device — or both. Bypasses AC to chassis (which is like banishing the loud mouth to the backyard). Fit it to generators, alternators, coils, switches, water and fuel pumps, etc. Cat A-7902

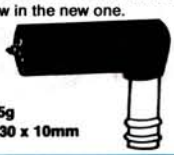
Shipping weight: 11.8g

1.95

Spark Plug Noise Suppressor

Fits directly on spark plug in minutes. A spark plug cap with inbuilt 50 ohm resistor. Just cut off old cap and screw in the new one. Cat A-7908

$2.25



Shipping weight: 8.5g
Shipping size: 40 x 30 x 10mm

Ignition Lead Suppressor

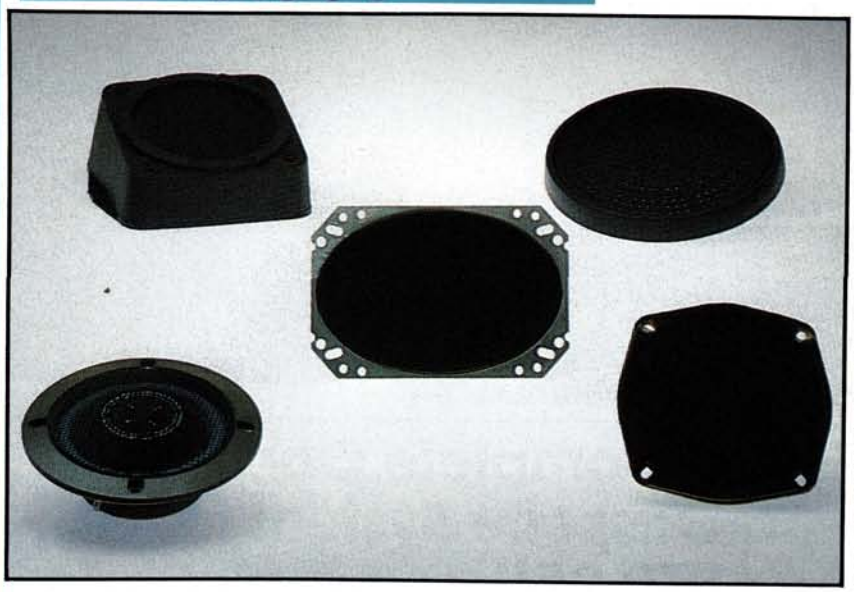
You can install these resistive suppressors (50K) anywhere in the HT lead to eliminate or reduce ignition noise. Just cut the coil wire and screw cut ends into suppressor. Cat A-7904

$1.35

Coax Alternator Suppressor

Here's the big gun heavy duty model. 0.5uF 50 volt coaxial capacitor for extreme cases of alternator whine. Connect it in series with the output lead to the alternator and earth the case. It'll handle 60 amps. Cat A-7928

$14.95



Quality speakers needn't cost an arm and a leg!

Mount anywhere

On the rear shelf, from the roof, side panel... it doesn't matter. Great performers with a huge 15 watt power rating. Suits almost all car hi-fi systems and features deluxe ceramic 83g magnets. 4 ohms impedance.

Shipping size: 150 x 130 x 150mm Cat A-6980 **$19.95**

Door mount

The super thin version for mounting in doors, side panels, etc. The heavy wire mesh provides maximum protection. 100mm size suits standard cut-out found in most cars. Handles up to 15 watts. Cat A-7050 **$39.95**

Shipping size: 150 x 140 x 150mm

When your speakers become squeekers... it's time for Replacements

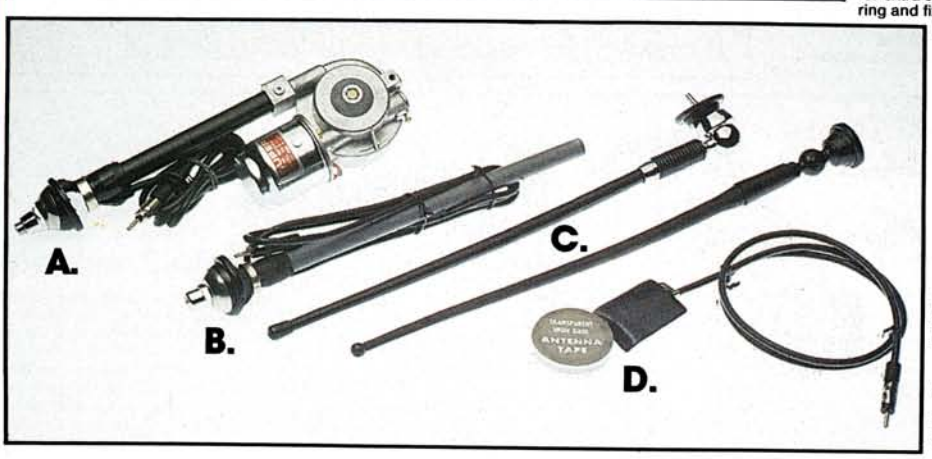
Take your pick. Serviceman, handyman or installer you'll find one to do the job. All have dual impedance — 4 and 8 ohms — they'll suit most systems.

- **130mm round (our most popular model)** Cat A-7145 ..... **$10.95**
- **150 x 100mm oval with ferrite magnet** Cat A-7130 ..... **$10.95**
- **180 x 130mm oval** Cat A-7135 ..... **$12.95**

Replacement Speaker Grille

130mm diameter will fit most popular 100mm speakers. Wire mesh cover for extra strength and protection. Comes complete with metal mounting ring and fixing screws. Cat A-7818 **Shipping weight: 335g**

Shipping size: 160 x 160 x 40mm **$8.35**



Your Best Reception

Quality antennas for best performance.

A. Electric Antenna

Adjust the antenna while you're sitting at the wheel; so convenient! Compact 5 section stainless steel mast, only 280mm underhang, corrosion resistant. Ideal for FM/MW/ LW bands. Comes complete with rocker switch assembly and mounting hardware. Cat A-7360 **$29.95**

Shipping weight: 550g
Shipping size: 380 x 120 x 80mm

B. Lock Down Antenna

Disappoint a vandal with these lock down antennas. 3 section telescopic with 300mm underhang. Comes complete with hardware and key. Cat A-7300 **Shipping weight: 184g** **$7.95**
Shipping size: 420 x 100 x 50mm

C. AM/FM Rubber Duckie

Ideal for both AM/FM reception. These are a flexible antenna and they won't rust or break. 390mm high. Cat A-7345 **$9.95**

D. Windscreen Antenna

Almost invisible! The antenna wire on transparent tape is fixed along the inside window edge. Gives strong AM/FM reception. Cat A-7301 **$6.95**

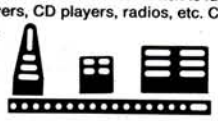
Shipping weight: 11g Shipping size: 300 x 200 x 10mm

Universal Mounting Bracket

Seven piece universal bracket set which is ideal for mounting CB's, tape players, CD players, radios, etc. Comes complete with hardware.

Cat A-7200

$7.50



Fully Automatic Antenna

The ultimate in ease! Antenna automatically goes up when you turn on your radio. Features 5 section anti corrosion stainless steel mast, FM/MW/LW reception, easy two wire connection, 300mm underhang and more! Cat A-7365

Shipping weight: 565g
Shipping size: 380 x 125 x 60mm

$39.95

Radio/CB Antenna Splitter

Now you can run both your radio and CB from your car antenna. Device fits easily and neatly under the dash. Cheaper than a new antenna and saves drilling extra holes in the body.

Shipping weight: 153g
Shipping size: 340 x 100 x 30mm

Cat A-7455

$14.95

E. Side Pillar Mount

Suitable for AM/FM operation. 2 section mast extends to 127cm. Easy to install and comes complete with mounting hardware and corrosion resistant support bracket. Cat A-7344

Shipping weight: 178g
Shipping size: 600 x 100 x 30mm **$7.95**

F. Standard Ball Base

Ideal for top or side mount. 180° base adjustment for installation at any angle. Spring base helps prevent breakage. 3 section extendable mast for minimum underhang. Cat A-7346

Shipping weight: 380g
Shipping size: 700 x 100 x 40mm **$12.95**

G. High Efficiency Universal Swivel Antenna

Special built-in high efficiency loading coil for improved AM/FM reception. 3 Section extends to 134cm. Base spring bends to 90° to minimize breakage. Cat A-7347 **$14.95**

Shipping weight: 418g
Shipping size: 880 x 100 x 50mm

H. Car Antenna Extension Lead

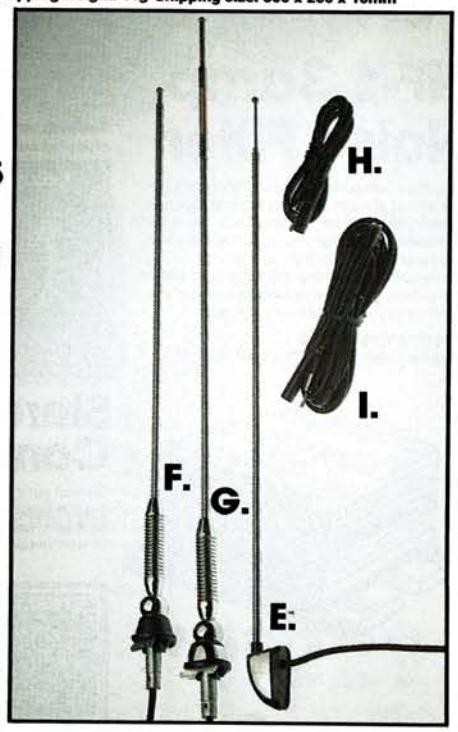
Fully compensated (low signal loss) 1 metre lead. Ideal when your new antenna has a lead which is too short or if you're roof mounting your system. Cat A-7450

Shipping weight: 58g
Shipping size: 260 x 100 x 30mm **$4.95**

I. 4 Metre Antenna Extension Lead.

Same as the above but this one's 4 metres long. Ideal for rear mounted antennas. Cat A-7452

Shipping weight: 177g
Shipping size: 300 x 100 x 50mm **$8.50**



Only DSE has a 7-day satisfaction guarantee

Ship ahoy... It's 'Music Buoy'

Yes, an AM/FM radio which floats on the water! No pool, spa, boat, fishing basket... should be without one. Use it in the bathroom (you can even take it in the bath!) water won't stop it. With dynamic water-proof speaker, large easy to use dials and quality sound. Uses 4 UM2 batteries (not supplied).

Shipping size: 250 x 244 x 115mm

$49.95 Cat A-4024

The rain, hail, sleet or snow radio

The All-Weather AM/FM radio is just the thing for the beach, the boat, camping... anywhere! The rugged plastic case withstands seaspray, strong ultra-violets, the odd spill, kids sticky fingers, etc. Delivers excellent sound quality on both AM and FM. Features extra large, easy to use volume, tuning and selection dials.

$27.50 Cat A-4030

Micro Cassette Notetaker

Ideal for personal notes, inventories, dictation, interviews, etc. Controls and microphone are designed so you can record while carrying it in your shirt pocket! Features earphone, foot switch, and AC adaptor jacks for extra convenience when used for dictation and stenography. With one touch record button and pause button. Comes complete with batteries, carry strap and 30 minute tape.

Shipping weight: 250g Cat A-4042
Shipping size: 75 x 150 x 30mm
Spare cassettes to suit: Cat C-3360

$99

Mono Cassette

Great value for money hand-held cassette. It's a must for executives, students, journalists, etc. There's just no need to spend a fortune on compact recorders when Data Recorder will do the job. Features Fast-Forward/Cue, Rewind/Review, Auto Shut-Off for battery conservation and more! With wrist strap, earphone and external DC jacks. Cat A-4049

Shipping weight: 470g
Shipping size: 280 x 280 x 60mm

$74.95

Headphone Stereo Radio

The AM/FM radio is built into the headphones! There's no bulky device to carry around. Ideal for joggers, etc and it gives great sound quality. Controls are conveniently located and it's light and comfortable to wear. It also prevents your brains from leaking out your ears! Cat A-4340

Shipping weight: 340g
Shipping size: 250 x 183 x 50mm

$29.95

2-band Portable Radio

Beautifully styled AM/FM radio which delivers clear, sharp sound. Fits into your pocket or bag so it will go anywhere you go! Features LED indicator, telescopic antenna, carry strap and ear phone. Fantastic dollar value! Cat A-4367

Shipping weight: 325g
Shipping size: 180 x 100 x 50mm

$14.95

AM/FM Stereo with Headphones

For those who like to take their music when they're out and about. The Cosmos player delivers excellent AM and FM-stereo through lightweight, high quality headphones (supplied). Easy slide-action controls, belt clip, stereo and power LEDs are just some of the amazing features! Fantastic for sports lovers too! Cat A-5116

Shipping weight: 241g
Shipping size: 220 x 190 x 50mm

$27.50

Super-slim AM/FM Stereo

Outstanding performance and value! Only 10mm thick yet it performs better than most of the big bulky models. The lightweight stereo headphones (supplied) are extremely comfortable and give sharp clear sound. Ideal for the health conscious and mobile! Cat A-5118

Shipping weight: 40g
Shipping size: 120 x 80 x 10mm

$39.95

Cassette Head and Stylus Cleaning Kit

Why buy separate cleaning kits when you can have both in one? Contains cleaning fluids for stylus and cassette heads, swabs, dental-style mirror and application swab. Cat C-7080

Shipping weight: 113g
Shipping size: 250 x 100 x 20mm

$4.95

Cassette Head Cleaner

Our Cassette Head Cleaning Fluid removes the built up dirt and grit which accumulates on heads with regular use. Comes in hand size bottle with instructions. Cat C-7088

95¢

Shipping weight: 100g
Shipping size: 120 x 40 x 40mm

Video Head Cleaner

Just like your cassette, your video heads need to be kept clean and grease free. Regular use of Video Head Cleaning Fluid can help hold down maintenance costs. Keep yourself in the picture — clean your heads regularly! Cat C-7089

$1.50

Shipping weight: 100g
Shipping size: 120 x 40 x 40mm

Answer Machine Head Clean Kit

Demagnetizes, cleans capstan and cleans heads all in one simple operation. Comes complete with tape and cleaning fluid. Cat C-7091

$5.50

Shipping weight: 68g
Shipping size: 130 x 180 x 20mm

Telephone Answering Machine Cleaner

With this kit you can save yourself sending your machine in for un-necessary servicing. Comes with cleaning fluid and swabs. Cat C-7094

$1.50

Shipping weight: 65g
Shipping size: 75 x 112 x 45mm

Record and Stylus Cleaning Kit

Help prolong record and stylus life! Simply wipe record with velvet cleaning bar and clean stylus with special brush. It'll save a lot in the long run.

$5.50

Shipping weight: 67g
Shipping size: 175 x 120 x 60mm Cat C-7093

Head Cleaning Tape

Here's a simple method for cleaning your tape head while simultaneously servicing the capstan. Kit comes complete with cleaning fluid and tape. Cat C-7098

Shipping weight: 220g
Shipping size: 210 x 105 x 30mm

$2.95

Audio Alignment Cassette

Ideal for servicemen, technicians, enthusiasts... anyone who wants the best from their cassette machine. Suitable for testing head alignment, tape speed, signal to noise, signal level and wow and flutter. Cat C-7099

$14.95

Shipping weight: 70g
Shipping size: 70 x 110 x 15mm

Video Head Cleaning Tape

This VHS VCR head cleaning tape can save you a bundle on repair costs. Uses a non-abrasive 'wet' cleaning method. Use regularly for best results. Cat C-7100

Shipping weight: 220g
Shipping size: 216 x 105 x 30mm

$9.95

Cassette Head Demagnetizer

Helps maintain optimum sound quality! Service you cassette heads in minutes. Simply plug Demagnetizer into 240V mains, hold near tape head and draw away slowly.

$12.95

Shipping weight: 237g
Shipping size: 275 x 105 x 50mm Cat C-7222

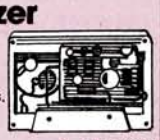
Inductive Pick-Up

A great little device for recording your telephone conversations. Simply fit suction cap to handset and slip plug into recorder. Comes with 3.5mm plug and 900mm cable. **Note:** Use of this device may contranvene Telecom or privacy laws.

Cat C-7300

$3.25

Cassette Head Demagnetizer



With the special power saving circuit design! In just seconds removes harmful magnet patterns. Use regularly for best results and clear, clean sound. Cat C-7505

$11.95

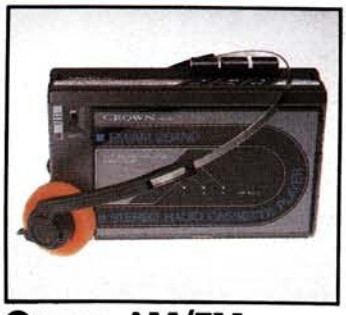
Shipping weight: 95g
Shipping size: 180 x 145 x 20mm

Crown Stereo Cassette

A 'Walkie' style stereo cassette complete with headphones — that leaves change in your wallet! The compact Crown Walkie gives quality sound reproduction and the full top mounted controls make it easy to use. At 115 x 84.5 x 33.5mm and only 180g it doesn't weigh you down. Comes complete with headphones and shoulder strap. Cat A-4056

Shipping weight: 180g
Shipping size: 115 x 84.5 x 33.5mm

$39.95



Crown AM/FM Cassette

For fun runs or just a quiet stroll this compact radio/cassette delivers superb stereo sound. Comes complete with lightweight headphones and convenient belt clip. Features full tape function control, AM/FM band selection and tuning... all with one-hand operation! Cat A-4057

Shipping weight: 329g
Shipping size: 180 x 170 x 80mm

$69.95

Get the kids started

This exceptional value tape player/recorder/PA could lead to bigger things! Play your music and sing along via the plug-in mic (supplied), or use it as a straight PA. Rigid plastic construction and large robust controls make it easy to use and almost indestructible. Inbuilt mic, ear phone, and 6V DC jacks. Cat A-4100

Shipping weight: 980g
Shipping size: 250 x 225 x 90mm

NEW FOR 87

$39.95

AM/FM Stereo Headphone Radio

It's all on your head! The radio is actually built **inside** the phones — so you haven't got to worry about where to wear the radio. A top little number in nudist colonies! (but where do they keep their money and keys?). And you can even use them as ordinary headphones or for your Walkie Cassette, etc! Cat A-4335

Shipping weight: 211g
Shipping size: 115 x 110 x 60mm

$14.95

Cube FM Clock Radio

Compact cube style clock/FM radio. Built-in alarm, snooze button and large LED display make it ideal for the bedside table. Delivers superb FM sound. With top mounted time/alarm controls and side mounted radio controls for added convenience. Complete with telescopic antenna for clear reception. Cat A-5120

Shipping weight: 564g
Shipping size: 140 x 70 x 160mm

$39.95

6 Speaker AM/SW/FM Stereo Cassette Radio

True stereo sound from a compact portable. With 6 fixed speakers, 2 built-in condenser mics (for true stereo recording), ext. mic and input jacks, volume, tone and balance controls and much, much more! Fantastic 14 watt power rating and available in three popular colours.

Specifications:
Speakers: 2 x 3.5 inch — 4 ohms
2 x 3.5 inch — 16 ohms
Power: 14 watt

Frequency range: AM 530-1605KHz
FM 88-108MKz
SW 3.8-12 MHz

Red Cat A-5000
Black Cat A-5001
Silver Cat A-5002

Shipping weight: 2.5kg
Shipping size: 400 x 170 x 160mm

$129 each

Cassettes

A sound investment

Top quality Maxell audio tapes. World renowned for superb reproduction and performance. Now they're available at your nearest DSE store! Your choice of UR, UD, UDII, XLI-S OR XLII-S in the most popular types. Don't miss our amazing value!

C60UR	Cat C-3060	**$2.95**	**$2.50**
C90UR	Cat C-3062	**$3.90**	**$3.50**
C90UDI	Cat C-3066	**$5.45**	**$5.20**
C90UDII	Cat C-3068	**$6.95**	**$6.20**
C90XLI-S	Cat C-3070	**$7.95**	**$7.00**
C90XLII-S	Cat C-3072	**$8.95**	**$8.00**

Shipping weight: 100g
Shipping size: 110 x 95 x 40mm

Camera/Lens Cleaning Kit

Ideal for cameras, video cameras, etc. Complete with lens tissue, blower brush, lens cleaning fluid and cleaning swabs. Cat C-7530

Shipping weight: 98g
Shipping size: 230 x 135 x 40mm

9.95

Cassette Demagnetizer and Cleaner

A complete kit all in one convenient pack. Contains head demagnetizer tape, head cleaning tape and cleaning fluid. Cat C-7510

$14.95

Shipping weight: 64g
Shipping size: 177 x 145 x 20mm

Mini Multi Purpose Vac

Battery operated mini vacuum cleaner/blower ideal for cleaning cassette/record players, video recorders, computer and typewriter keyboards — anywhere! Operates on two penlight batteries and can be used as a blower or sucker. Comes complete with five cleaning attachments for those difficult jobs.

$19.95

Cat C-7525

Shipping weight: 115g
Shipping size: 150 x 145 x 40mm

CD Cleaning Kit

The complete cleaning kit for those valuable compact discs. Comes with spray cleaner, brush, cleaning base and cleaning tool. You'll get the best sound from a clean disk! Cat C-7520

$14.95

Shipping weight: 268g
Shipping size: 245 x 175 x 45mm

DSE Extended Dynamic Range Tapes

DICK SMITH DSE

C90EDR Cat C-3354

Astounding value at a DSE low,low price! Try our high quality, extended dynamic range tapes once... and you'll be back for more.

Shipping weight: 69g
Shipping size: 110 x 70 x 20mm

$1.95

Micro Cassettes

Performance and reliability! For your mini cassette recorders we've got premium quality MC60 Micro Cassette Tapes. In packs of three, they offer excellent value for money.

MC60 Cat C-3364 **Pack of 3**

Shipping weight: 57g
Shipping size: 42 x 60 x 15mm

$14.95

Budget Priced 3hr VHS Tapes

They might be light on price, but there's nothing light about the quality. Famous brand 3 hour tapes — buy some for the kids and they can record their own shows!

Shipping weight: 318g
Shipping size: 190 x 110 x 30mm

$9.95 Cat C-3405

Micro Cassette Eraser

A fantastic time saving device! Erases micro cassettes and leaves your recorder free for more important things. Also saves head wear on your recorder. Cat C-3362

Shipping weight: 140g
Shipping size: 80 x 50 x 30mm

$5.45

Premium Performance Maxell Video Cassettes

Premium 'HG' grade tapes. This is the good stuff! Perfect for Hi-Fi Videos and extended length recording/playback. They're Maxell — so you know they're good! Available in both VHS and Beta formats (all 3 hours long). When quality counts; these are what you need!

VHS E-180 Cat C-3400
Beta L-750 Cat C-3395

Shipping weight: 32g
Shipping size: 90 x 100 x 25mm

$24.99 each

More and more people are becoming satisfied DSE customers every day

Colourful Clock

Ultra-compact LED alarm clock fits perfectly on the night table... with all your other bits 'n pieces. And its super low price makes it ideal as the kids' first alarm clock. Large figure display tells you the exact time at a glance. Features hour/minute time set controls and alarm setting. Over sized Snooze control, too! Battery Backup maintains alarm setting during power failure, so you'll still wake on time.

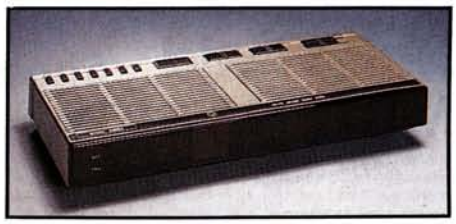
Pink Cat A-5110
Blue Cat A-5112 **$14.95** **Shipping weight: 375g**
White Cat A-5114 **Shipping size: 150 x 100 x 90mm**

Budget-Priced AM/FM Clock Radio

Wow! Unbeatable value for a full features alarm. Select either AM/FM or buzzer alarm for your wake-up call. The Snooze control allows you to enjoy a lie-in and re-sounds the alarm automatically. Excellent mono sound on AM and FM is thoroughly enjoyable and solid state circuitry provides sharp, clear sound. And even on a budget, you can enjoy all the most wanted features: snooze, sleep, display dimmer and full time/alarm set controls. Cat A-4460

$34.95

Shipping weight: 865g
Shipping size: 260 x 190 x 80mm

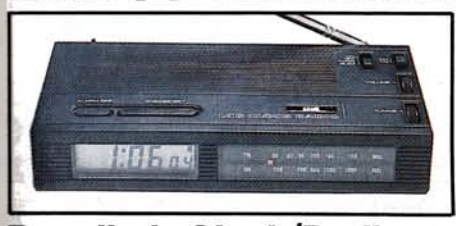


AM/FM Clock Radio with full 'stereo' sound

Excellent 'stereo' sound quality combined with all the most wanted features in a super-slim LED clock/radio that looks great with any decore. In fact, the stereo quality is so good, it will remind you of your Hi-Fi system. And what a host of impressive features!! Selectable buzzer/radio alarm. Sleep and Snooze controls. Automatic display dimmer which self adjusts for day/night viewing. And full time/alarm setting controls. Battery Backup maintains alarm setting during power failure. Cat A-4465

$44.95

Shipping weight: 1.3kg
Shipping size: 340 x 190 x 80mm



Traveller's Clock/Radio

An AM/FM clock radio with alarm function that's ideal for the traveller. 11mm high LED display, full function 6 digit alarm clock, snooze and sleep function, telescopic antenna and it's all packed into a neat 84 x 155 x 30mm case. The slim-line design and robust construction make it perfect for the suitcase where space is always critical.

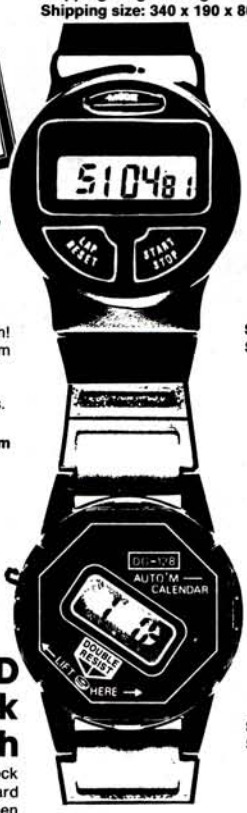
$39.95 **Shipping weight: 314g**
Shipping size: 180 x 100 x 50mm
Cat A-4470

NEW FOR 87

The alarm which does what it's told

Ever wished to tell your alarm to shut-up?Well, now you can! Our Voice Stop Alarm has all the right features. Large 15mm LED display digits, 24hr set alarm, power failure indicator, battery back up facility, 9 minute snooze pause and more! But best of all, you only have to yell "Shut-Up!!" and it does. Cat Y-1052

$15.95 **Shipping weight: 373g**
Shipping size: 150 x 130 x 60mm



His and hers watches

Fantastic value! The Unisex Watch with day/date calendar, daily alarm, hourly chime, 12hr 1/100 chronograph, 12/24 hour time, time split/lap and more! Available in three fashion colours. At this low price it has to be time to get one! Cat Y-1011

$12.95

Shipping weight: 45g
Shipping size: 280 x 100 x 10m

Two watches for the price of one

What a great idea! Two different faces on one watch. When you want a change just reverse the watch. Features date, time and sturdy plastic strap. Ideal for politicians — they're experts on being two faced. Cat Y-1021

$4.95

Shipping weight: 14g
Shipping size: 215 x 30 x 10mm

Transparent Clock/Alarm

Use it on your desk, carry it in your pocket! The amazing see-through clock. Features clock, alarm, calendar, snooze button and comes complete with velvet carry case. At 90 x 53 x 10mm fits neatly into pocket or stand it on desk or dressing table with the fold away stand. Cat Y-1000

$19.95

Shipping weight: 70g
Shipping size: 75 x 100 x 25mm

LCD Clock Stopwatch

A handy Stopwatch/Clock that comes complete with lanyard for hanging around the neck. When used like this the unit will be the right way around for timing sports events etc. quartz controlled for accuracy, the large liquid crystal display is very easy to read. Use it as a clock, or at the press of a button use it as a Stopwatch. Cat Y-1041

$15.95

Economy Quartz Stopwatch

Just the 'tick' for coaches and athletes, technicians... in fact anyone who needs split second accuracy up to 1/100th second. LCD displays split/lap timings; normal time: hours/minutes/seconds; day/date/month. Stop/Start stopwatch button allows you to interrupt a timing, then resume from that moment without having to reset and start again. Handy nylon lanyard keeps the stopwatch out of the way, around your neck. Cat Y-1051 **Shipping weight: 50g**
Shipping size: 140 x 80 x 20mm

$9.95

Mini World Clock

Know the exact time anywhere in the world. Ideal for radio amateurs, executives or people who have relatives overseas: there's nothing worse than phoning people in the middle of the night! Rotating world disc provides the corresponding time in another country... simply set hands to you local time, rotate the disc and presto — the clock indicates the hour overseas. Alarm function is a perfect reminder to call overseas at a particular time. Requires only one pen light battery (not included). Cat Y-1056

Shipping weight: 110g
Shipping size: 90 x 100 x 50mm

Bicycle and Ski Stopwatch

Handy time piece for the active person who likes to track his/her performance. Designed for bike riders, joggers and snow/water skiers. Six digit LCD reads out lap time (up to 1/100th second accuracy), normal clock time and date. Simple operation: single, three function button for lap-time, reset and time-date settings. Features quick response Stop/Start button. Cat Y-1049

$16.50

Shipping weight: 85g Shipping size: 180 x 130 x 30mm

$32.95

PA Equipment

Hand-Held Megaphone

Superb, budget-priced power horn that really makes you heard above the crowd. Impressive 7 watt output is more than enough power... ideal for coaches in training situations, school excursions and the odd demo. Features handle, shoulder/wrist strap, trigger-action 'On-Air' and thumb-wheel volume control. Requires 8 'C' batteries (not included). Cat F-2005

Shipping weight: 1.4kg
Shipping size: 280 x 190 x 200mm

$79.95

Shoulder Strap Power Horn

This little beauty delivers a full 6W output with a surprisingly extensive range: Features a separate MIC with thumb-wheel volume control, pre-set 'whistle' and 'siren' sound effects. 12V jack plug enables connection to car power supply, and 'radio' jack plug for connecting a radio/tape player for PA-type entertainment. Requires 8 'AA' batteries for portable use (not included). Cat F-2000

Shipping weight: 1.94kg
Shipping size: 400 x 245 x 255mm

$99

40W (Pk) PA Amp With AC/DC supply

For the really big jobs! This top quality, powerful 45W, AC/DC amplifier is ideal for halls, scout groups, fetes, schools or just about anywhere you need to make yourself heard. With all the features you'll ever need in a PA, it features 2 mic jacks with separate volume controls. Aux volume control, master volume control, common rail driving system (70V & 100V) as well as 4, 8, & 16 ohm outputs. Plus — 2 bridged auxiliary input sockets. All this housed in a heavy duty metal case complete with 240V power cord. Cat F-2036

Output power: 20W RMS, 45W Peak
Input & Sensitivity Mic 1-2:2mV/12V ohms. Aux. 100mV/33k ohms.
Operating voltage: 240V AC or 12 V DC
Dimensions: 253(w) x 68(h) x 156(d)mm

$229.95

Audio Plugs and Sockets

3.5mm Stereo Socket to 6.5mm Stereo Plug
Cat P-6500 ..... **$1.30**
(10 up $1.15)

6.5mm Stereo Socket to 3.5mm Plug
Cat P-6505 ..... **$1.30**
(10 up $1.15)

6.5mm Socket to 3.5mm Plug
Cat P-6510 ..... **$1.30**
(10 up $1.15)

3.5mm Socket to 6.5mm Plug
Cat P-6520 ..... **$1.30**
(10 up $1.15)

2 x 3.5mm Stereo Plugs to 1 x 3.5mm Stereo Plug
Cat P-6525 ..... **$4.50**
(10 up $4.00)

RCA Socket to 6.5mm Plug
Cat P-6530 ..... **$1.30**
(10 up $1.15)

3.5mm Socket to RCA Plug
Cat P-6540 ..... **$1.30**
(10 up $1.15)

6.5mm Socket to RCA Plug
Cat P-6550 ..... **$1.30**
(10 up $1.15)

RCA Socket to 3.5mm Plug
Cat P-6560 ..... **$1.30**
(10 up $1.15)

6.5mm Stereo Socket to 6.5mm Plug
Cat P-6570 ..... **$1.30**
(10 up $1.15)

6.5mm Stereo Socket to 6.5mm Stero Plug
Cat P-6580 ..... **$1.30**
(10 up $1.15)

1.3mm DC Plug to 2.1mm DC
Cat P-6591 ..... **$1.30**
(10 up $1.15)

3.5mm Socket to 3.5mm Plug
Cat P-6600 ..... **$1.30**
(10 up $1.15)

1 x RCA Plug to 2 x RCA Socket
Cat P-6610 ..... **$2.95**
(10 up $2.65)

3.5mm Plug to 3.5mm Socket R/angle
Cat P-6620 ..... **$3.95**
(10 up $3.55)

3.5mm Socket to 6.5mm Plug Str R/angle
Cat P-6625 ..... **$4.95**
(10 up $4.45)

Audio Adaptor Leads

5 pin DIN plug to 5 pin DIN plug
Cat W-1010 ..... **$4.1**
(10 up $3.90)

Cable 5 pin DIN plug to 2 x RCA plug
Cat W-1020 ..... **$4.9**
(10 up $4.45)

5 pin DIN plug to 4 x RCA plug
Cat W-1040 ..... **$7.1**
(10 up $6.45)

5 pin DIN plug to 2 x 3.5mm plug
Cat W-1050 ..... **$5.4**
(10 up $4.90)

4 x RCA plug to 4 x RCA plug
Cat W-1060 ..... **$8.2**
(10 up $7.45)

1 x RCA plug to 1 x RCA plug
Cat W-1070 ..... **$2.2**
(10 up $2.00)

1 x RCA plug to 1 x 3.5mm plug
Cat W-1080 ..... **$1.9**
(10 up $1.75)

1 x 3.5mm plug to 1 x 3.5mm plug
Cat W-1090 ..... **$2.7**
(10 up $2.50)

1 x 6.5mm plug to 1 x 1.65mm plug (coiled lead)
Cat W-1110 ..... **$7.1**
(10 up $6.45)

4 metres coiled lead with 6.5mm stereo plug to 6.5mm stereo socket
(10 up $6.45)
Cat W-1120 ..... **$7.1**

1 x 3.5mm plug to 1 x 3.5mm line socket
(10 up $2.95)
Cat W-1150 ..... **$3.2**

1 x 3.5mm stereo plug to 1 x 3.5mm stereo socket
(10 up $2.95)
Cat W-1160 ..... **$3.2**

2 x RCA plugs to 2 x RCA plug
(10 up $4.90)
Cat W-1180 ..... **$5.4**

Cable 2 x RCA plugs to 2 x RCA plugs 34cm
(10 up $2.65)
Cat W-1185 ..... **$2.9**

1 x 3.5mm plug to 2 x RCA plugs
(10 up $4.20)
Cat W-1250 ..... **$4.7**

1 x RCA plug to 1 x RCA socket
(10 up $2.20)
Cat W-1280 ..... **$2.4**

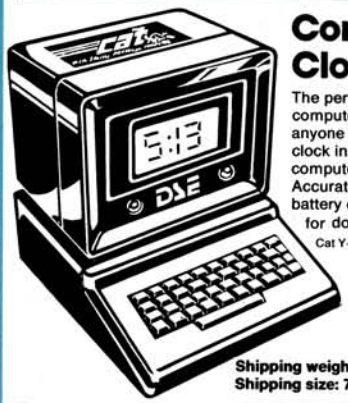
RCA plug to 75 ohm Belling Lee
Cat W-1286 ..... **$7.7**
(10 up $7.00)

Video Cable/Adaptor Set
Cat W-1287 ..... **$29.9**

Video Cable/BNC to RCA 1.5 metre
Cat W-1290 ..... **$6.9**
(10 up $6.25)

Video Cable/BNC to PL259 1.5 metre
Cat W-1295 ..... **$6.9**
(10 up $6.25)

Computer Clock



The perfect gift for the computer nut (and anyone else!) Mini LCD clock in the shape of a computer and monitor. Accurate quartz clock, battery operated (lasts for donkey's years!) Cat Y-1039

$6.95

Shipping weight: 40g
Shipping size: 76 x 65 x 65mm

Athletic Timer

NEW FOR 97

If you're serious about your sport this is just what you need. The sports stopwatch is superbly designed for single hand operation and easy reading. Features count up/ down modes, total lap and section lap, overtime alarm, overtime function, total/ section split functions and more! Cat Y-1035

Shipping weight: 86g
Shipping size: 155 x 87 x 27mm

$32.50

Backward Clock!!!

At first you won't believe your eyes: all numerals and hands (including the second sweep hand) operate 'anti-clockwise'. So, when it's one o'clock (real time) the Reverse Clock indicates 11 o'clock. It's absolutely crazy... but fun! Attractively finished with white face and gold trim, it looks like an expensive time piece on any wall. Cat Y-1048

$42

Shipping weight: 550g
Shipping size: 360 x 310 x 60mm

Clock with Alarm and Thermometer

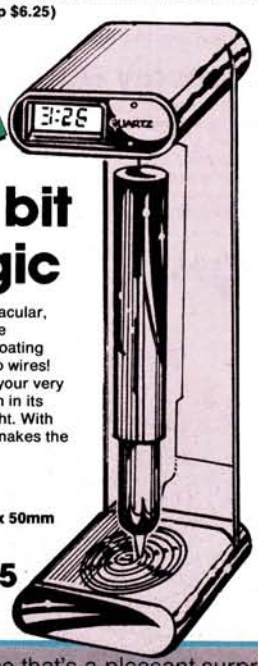
Mini LCD alarm clock also shows temperature at a glance! Ideal for the desk, complete with hinged stand to support upright on deck. Your choice of 12 or 24 hours modes and degrees C or F. A backlight is provided for night use and a velvet-type sleeve for protection. Cat Y-1045

Shipping weight: 47g
Shipping size: 130 x 100 x 20mm

$36.50

A little bit of magic

NEW FOR 97



The amazing, the spectacular, the eighth wonder of the universe! Yes, it's the Floating Pen Clock. No tricks, no wires! See it defy gravity with your very own eyes. Place the pen in its stand and it stays upright. With digital clock built-in, it makes the perfect gift. Cat Y-1001

Shipping weight: 130g
Shipping size: 200 x 60 x 50mm

$9.95

Headphones

Dynamic Stereo Headphones

Superior quality headphones for the discerning audiophile who demands impeccable audio reproduction. The perfect companion for your home Hi-Fi system, they deliver mind filling stereo with an impressive 20-22000Hz frequency response. Popular 6.34 phono plug suits many portables too. for superb stereo on the go. Cat C-4160

Impedance: 200 ohms Sensitivity: 105 dB/mW
Max Input: 100mW Plug: 6.34mm Phono
Freq Response: 20-2200Hz Cord: 2.5mm

Shipping weight: 350g
Shipping size: 217 x 90 x 195mm

$59.95

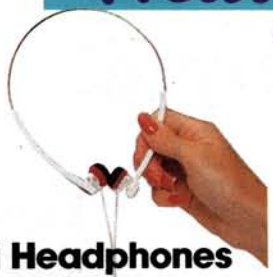
The Complete Headphone Adapter Kit

NEW FOR 87

Everything you'll ever need to connect headphones to just about anything (except your head)! Comes with stereo 3.5 metre extension cord, 3.5mm to 6 5mm and 6.5mm to 3.5mm adaptors, stereo to mono adaptor and double headphone adaptor — all in a durable storage case. Cat C-4180

Shipping weight: 210g
Shipping size: 200 x 155 x 30mm

$14.95



Mini Headphones

Superb stereo headset with 3.5mm plug designed for today's personal portables. Thin metal headband can be adjusted for joggers etc. Small, foam ear pads fit securely against your ears for total comfort and undistured stereo reception. **Frequency response: 20-20000Hz. Impedance: 32 ohms.** Cat C-4130

Shipping weight: 64g
Shipping size: 160 x 242 x 35mm

$9.95

Stereo Ear Plugs

The most lightweight stereo headset you could ever imagine! There's no headband to continually adjust... only ultra-small foam ear plugs which fit snugly into your ear. Ear plug kit comes complete with spare foam ear pads, 6.5mm and 3.5mm adaptor plugs to suit all popular stereo systems and portables. Cat C-4135

Shipping weight: 41g
Shipping size: 110 x 95 x 20mm

$9.95

Two-Way Headphones

Wow! Versatile stereo headset which you can use either as a fantastic ear plug set, or with a conventional headband. The small foam ear pads can be removed from the ultra-thin headband for action packed stereo listening on the go, and easily replaced for laid-back home Hi-Fi listening. Comes with 6.5mm and 3.5mm plugs, spare ear plugs. **Frequency response:-30-20000Hz. Impedance: 32 ohms. Sensitivity: 100 dB/mW. Maximum input: 50mW.** Cat C-4140

Shipping weight: 64g
Shipping size: 742 x 27 x 190mm

$16.95

Lightweight Headphones with 'Off' Button

If you prefer the security and firmness of a headset with a headband but still like the feeling of unrestricted movement... here's the answer! A unique OFF button (with handy clip) cuts sound immediately without having to unplug headphone from player. 3.5mm plug suits all of today's personal portables. **Frequency response: 40-2000Hz. Impedance: 32 ohms. Sensitivity: 94dB/mW. Maximum input: 100mW.** Cat C-4145

Shipping weight: 112g
Shipping size: 150 x 45 x 95mm

$17.95

Quality Sennheiser Dynamic Eargear!

HD410SL

NEW FOR 87

Superior quality sound reproduction from one of the top headphone manufacturers. The HD410SL headphones are light and comfortable with removable ear pads and a generous 3 metre cable. If it's quality you're after — look at these performance figures:

Frequency Response: 20-18000Hz
Nominal Impedance: 60 ohms per driver
Power Handling Cap.: 0.1W
Total Harmonic Distortion: </= 1%
Plug Size: 6.5mm
Nom. Sound Pressure Level: approx. 94dB @ 1mW
Headband pressure: approx. 2.5N
Weight (without cable): 82g
Cat C-4115

Shipping weight: 112g
Shipping size: 150 x 45 x 195mm

$74.95

Fold-Away Headphones

These lightweight stereo 'phones comes with both 6.5mm and 3.5mm plugs. Lightweight, thin metal headband suits relaxing home enjoyment and action-packed outdoor listening. Includes extra foam ear pads. **Frequency response: 20-20000Hz. Impedance: 4-35 ohms. Sensitivity: 98dB/1mW. Maximum input: 0.1W.** Cat C-4150

Shipping weight: 64g
Shipping size: 160 x 242 x 25mm

$24.50

Slim-Line

Slim-line adjustable metal headband can be worn comfortably and medium sized, foam padded ear cushions are extremely light against your ears. Two adaptor plugs allows use with portables and home Hi-Fi: comes with 3.5mm and 6.34mm plugs. **Frequency response: 20-20000Hz. Impedance: 32 ohms. Sensitivity: 97dB/mW. Maximum input: 100mW.** Cat C-4155

Shipping weight: 200g
Shipping size: 160 x 55 x 240mm

$65

HD40

Still the famous Sennheisser quality but with a little more modest price. The HD40 comes complete with 6.5/3.5 multi-plug and 1.25 metre cable. You can't get better value!
Frequency Response: 22-18000
Nom.Impedance: 42 ohms
Sensitivity at 1kHz: 94dB
Distortion: </= 1% Power Handling: 0.1W
Headband Pressure: 1.3N
Weight (without cable): approx. 60g

Shipping weight: 211g
Shipping size: 185 x 33 x 210mm

$49.95 Cat C-4120

NEW FOR 87

Headphone/ Microphone Set

Versatile stereo headset for Hi-Fi enjoyment PLUS boom mike for use with amateur radio, CBs, etc. Plug headset into stereo equipment for quality listening. Detachable boon mic allows hands-free conversations. Cat C-4165
Frequency response: 200-500Hz. Impedance: 500 ohms. Sensitivity: 82dB/1mW. Plug: 6.5mm.

Shipping weight: 169g
Shipping size: 93 x 62 x 57mm

$49.95

NEW FOR 87

Airdaptor Headphones

Ask any traveller and they'll tell you how bad the sound is from those airline headphones. Now, there's the jetsetters reprieve! The Airdaptor Jetset Headphones simply plug into the seat via an adaptor (supplied) and presto! Clear, sharp, quality sound. Comes complete with batteries and instructions. Cat C-4050

Shipping weight: 143g
Shipping size: 80 x 85 x 50mm

$49.95

Earpieces

No, we're not selling bionic spares. Here's some great value earpieces for those crystal sets, mono players, etc.

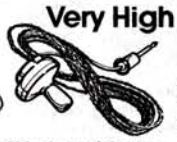
Low Impedance Magnetic Type

with 4.5 metre cable and 3.5mm plug. Cat C-2760

$1.95

Shipping weight: 1.8g
Shipping size: 90 x 15 x 5mm

Very High Impedance Crystal Type



Complete with 1 metre cable and 3.5mm plug. Cat C-2765

$2.95

Shipping weight: 9g
Shipping size: 60 x 10 x 4mm

Microphones

Uni-directional Dynamic

A dynamic cardioid microphone ruggedly constructed so it is ideal for bands and PA work. Because of its cardioid polar pattern it is less sensitive to rear noises. Its dual impedance increases its range of uses. Great for the hi-fi buff, audio freak and because of its low price it would also be ideal for schools, colleges, etc. Cat C-1030

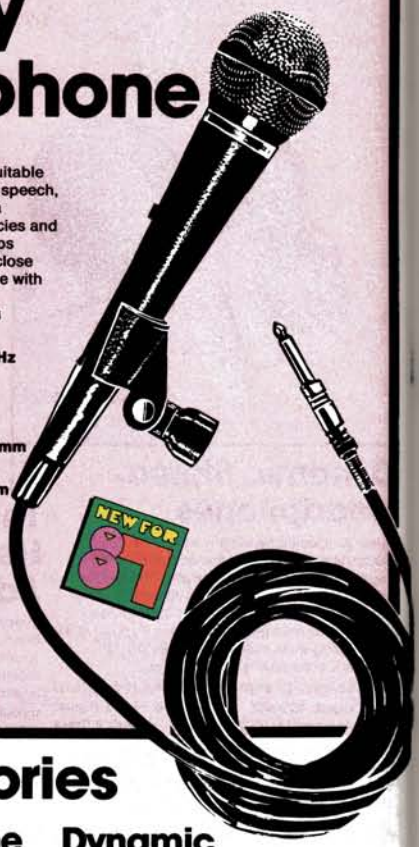
Specifications:
- **Impedance 600 ohms and 50K ohm**
- **Freq. response 60-15kHz**
- **Sensitivity -73dB (600 ohms) & -54dB (50K ohm)**
- **6 metres of cable with plug fitted**
- **Microphone holder inc.**

$59.95

The Professional Quality Microphone

A uni-directional microphone suitable for stage performance, singing, speech, etc. in various locations. It has a presence boost at high frequencies and low frequency roll-off which helps prevent 'Boom' when using for close talk. Generally it is a microphone with excellent character and broad performance latitudes. Cat C-1104

Specifications:
Frequence response: 50-16000Hz
Impedance: 200 ohms
Sensitivity: -76dB +/-2dB
Cable: 6mm x 5m with Cannon Connector
Dimensions: 53mm diam. x 175mm
Shipping weight: 860g
Shipping size: 240 x 150 x 88mm

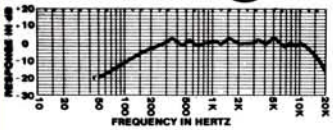


$79

Quality Microphone Accessories

Omni-directional Dynamic

$32.95



This budget priced general purpose dynamic microphone is ideal for recording purposes. It is high impedance to suit most tape recorders. Cat C-1025

Specifications:
- **50K ohm impedance**
- **Freq. response 80-13kHz**
- **Sensitivity -54dB at 1kHz**
- **6 metre cable, mic holder and 6mm plug supplied.**

Stereo Electret

$49.95

At last! A true Stereo Microphone!

Outstanding value stereo microphone! Ideal for those who want quality but don't wish to pay a fortune for it. This is a uni-directional mic with built-in windscreen to protect against noise if used outside. Floating constructions helps eliminate vibrations and touch noise. Cat C-1028

Features:
- **built-in on/off switch**
- **frequecy response 50-2000Hz**
- **sensitivity 64dB**
- **S/N ratio 40dB**
- **output impedance 1K ohm max.** (At only 160g it's easy to handle!)
- **Comes complete with stand, 3 metre cord and plugs!**

Lapel Microphone
Crystal Insert

$4.95

Save a bundle with the very popular high impedance microphone which has a crystal insert. It is ideal for use with valve amplifiers. Chrome finish, looks smart and the price is so low! Experimenters can use this microphone as it is very rugged. Cat C-1010

Dynamic Cassette Mic

$9.95

The perfect replacement for your cassette recorder. Can also be used with cassette recorders having a separate microphone as well as a built-in microphone. The cassette must have a low impedance input (99% of those on the market) and the unit comes complete with main 3.5mm signal plug and 2.5mm remote switching plug. This unit will save your cassette recorder from becoming obselete. Cat C-1015

Tie Clasp Electret

Just like the microphones used by interviewers when they want the mic to be inconspicuous, but with this one you also get fantastic pick-up and perfect clarity. The microphone comes complete with tie-clasp and 2 metres cord, terminated with a 3.5mm phone plug. Being a low impedance device it is also ideal for use with your cassette recorder for recording the family or lecture notes, etc. Cat C-1060

$26.95

Stand and Boom Clip

$7.50

Powerful springs enable this clip to hold virtually any sized microphones securely and yet releasing is a simple two finger operation. Has standard microphone and boom fitting threads. Cat C-1270

Electret Insert

$3.95

Making or repairing a microphone? This unit will fit most makes and has a high sensitivity with omni-directional characteristics. Connection data supplied. Weighs only 1.5 grams! Cat C-1160

Component Speakers

Woofers

300mm 'Big One'

Top of the range at a value for money price. Enormously powerful 80 watt(max.) at 8 ohms, it gives superb reproduction of bass notes. From Magnavox, it's a great start to a quality system!

Specifications:
Power Handling: 80 watts rms.
Frequency Range: to 5000Hz
Resonant Frequency: 30Hz
Voice Coil dia.: 25mm
Magnet Weight: 330g
Sensitivity: 96dB

$49.95 Cat C-2050

200mm Woofer

Magnavox have done it again. Superb 200mm woofer (that's 8 inch in dinosaur numbers) delivers excellent bass response and handles a huge 80 watts. 200mm is ideal for those not-too-large speaker enclosures.

Specifications:
Power Handling: 80 watts rms
Frequency Range: to 5000Hz
Resonant Frequency: 44Hz
Voice Coil Diam.: 25mm
Magnet Weight: 330g
Sensitivity: 96dB

Cat C-2054 **$29.95**

250mm Woofer

If you've slightly less room but don't want to lose on quality, then this is it! As a replacement or for a new system it'll give the best in bass response. At 65 watts rms it can handle just about anything you've got.

Specifications:
Power Handling: 65 watts rms
Impedance: 8 ohms
Frequency Range: to 5000Hz
Resonant Frequency: 35Hz
Voice Coil dia.: 25mm
Magnet Weight: 200g
Sensitivity: 92dB

$39.95 Cat C-2052

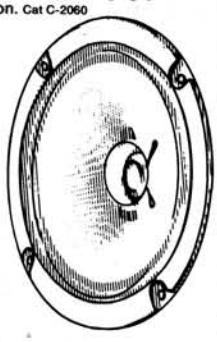
Midrange

30 watt 125mm

Ideal for the big system, this high quality midrange speaker gives professional performance. Fills that midrange gap with smooth, precise sound reproduction. Cat C-2060

Specifications:
Power Handling: 30 watts
Impedance: 8 ohms
Frequency range: 800-7000Hz
Voice Coil dia.: 19mm
Magnet weight: 81g
Sensitivity: 92dB

Shipping weight: 302g
Shipping size: 130 x 130 x 40mm



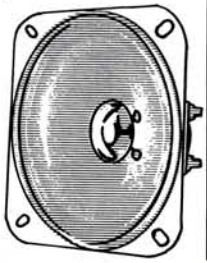
$14.95

100mm Midrange

A fantastic, high quality speaker for the smaller system where performance is important, yet high power isn't! Ideal as a replacement for many existing systems, car radios, transistors, etc... anywhere a 4 inch speaker is required.

Specifications:
Power Handling: 3 watts
Impedance: 8 ohms
Frequency Response: to 15000Hz
Magnet Weight: 48.11g
Sensitivity: 94dB

Shipping weight: 153g
Shipping size: 100 x 100 x 35mm



$9.95 Cat C-2062

Tweeters

25mm Dome

A superb dome tweeter that can be used as replacement in many systems. The dome principle allows for an extra wide dispersion of high frequencies up to 20kHz. The power rating is in the region of 50 watts maximum. Cat C-2004

$19.95

Piezo Ceramic

This superb piezo-ceramic tweeter is an ideal replacement tweeter. Handles up to 40 watts continuous. Frequency response from 5kHz to 27kHz! Suits all 8 ohm systems. Can be used with or without crossover.

$18.95 Cat C-2005

PCT 2000 Piezo

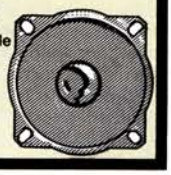
A high performance tweeter of exceptional quality! Fully enclosed, with removable stand and spring loaded connecter terminals. Cat C-2007

Features: • Handles 75W • Impedance 1200 ohms/1KHz & 40 ohms/40KHz • Frequency response 3500Hz to 40000Hz • Efficiency 90dB/1W at 1mm

$21.50

80mm Tweeter

Handles up to 30 watts (max). With a frequency response rating up to 18000Hz and 48.1g magnet! Suitable for 8 ohm systems. Cat C-2070



$9.95

Twin Cone Speakers from Magnavox

Two great value 200mm, 8 ohm, twin cone speakers both with a broad frequency response and high power handling capabilities.

Specifications:
Power: 20 watts (max.)
Resonance Frequency: 110Hz
Frequency Range: 100-14000Hz
Sensitivity: 97dB
Voice Coil: 19mm
Magnet Weight: 115g

Shipping weight: 437g
Shipping size: 200 x 200 x 50mm

$19.95 Cat C-2080

Specifications:
Power: 55 watts (max.)
Resonant Frequency: 44Hz
Frequency Range: 40-15000Hz
Sensitivity: 93dB
Voice Coil: 25mm
Magnet Weight 190g

Shipping weight: 437g
Shipping size: 200 x 200 x 50mm

$24.95 Cat C-2082

57mm Mini Speaker

If it's performance you want, this 57mm mini speaker has it — in fact we found that it offered more performance than speakers up to 75mm in diameter! Norminal impedance of 8 ohms makes it ideal for many purposes. Cat C-2222

10 up $1.80
$2.75

Economy Grille

Here's a high impact, 200mm plastic grille that has thousands of uses! If you want to place speakers into the wall or ceiling of your home then this grille makes an ideal cover. Also ideal on boats and in vehicles. Has four screw hole fitting points. Cat C-2646

10 up $3.56
$3.95

Crossover Networks

Impedance of 8 ohms and a crossover frequency of approximately 3kHz. The special inductor/capacitor circuit ensures good crossover characteristics. Can be used in your own designs for a 2-way speaker system. Cat C-2512

2-way $15

As used in the Playmaster 3/70L, 3/53L and 3/26L speaker systems. Has 8 ohm impedance. Two inductor network with non-polarised capacitors. Crossover frequencies of 1.5kHz and 5kHz plus high power handling capacity. Cat C-2513

3-way $19.95

Shipping weight: 418g
Shipping size: 210 x 210 x 55mm

Reflex Horn

$38.50

Large 127 x 200mm rectangular horn with huge 15 watts rating. Complete with mounting bracket, ideal for hanging under eaves etc for maximum sound dispersion. Use in conjunction with any alarm controller offering 'speaker' output (ie any alarm controller with inbuilt siren oscillator). Alternatively use with our L-5115 electronic siren driver when operated from an alarm 'relay' output. 8 ohms impedance. Cat C-2718

Horn Speaker

$13.95

Smaller version of C-2718 speaker, designed for use inside a horn speaker cover for maximum security installations. Plastic body means all-weather (under shelter!) operation and horn construction means incredibly high output compared to conventional speakers. 8 ohm impedance, 10 watts rating. As above, use with speaker output on alarm or optional siren driver. Cat C-2705

Hi Power L-Pad

Ideal for controller higher power speaker placed outside (eg for the BBQ or in a large play room). Can be mounted on a remote panel or in the speaker cabinet. Complete with instructions. Ideal for tweeter control.

- **Constant impedance**
- **15w continuous - 30 peak**
- **Mono use 8 ohms impedance**

$6.50 Cat C-7204

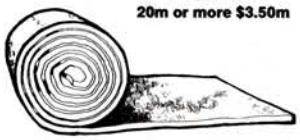
Stereo L-Pad

Controls audio level (attenuation 30dB to 0.5dB) while maintaining constant impedance matching between amplifier and remote speakers. Panel or speaker enclosure mounting. Medium power rating into 8 ohms. Complete with instructions.

$16.50 Cat C-7205

Speaker Box Lining

$4.95 per metre
20m or more $3.50m



Innerbond is light, clean, dust-free and easy to handle. Fibre bonding ensures that this cellulose acetate insulation will remain resilient and not fracture or break down due to vibration. Weighs approximately 300 grams/sq. metre and is 25mm thick by 700m wide — this is recommended density for most speaker usage. Cat C-2662

Telephones

The 'New' Generation Cordless Phone is here!!

The ultimate in telephone convenience has now reached new levels of sophistication. With just one phone, you can receive or make calls anywhere in the house or garden with an incredible 200 metre operating range! No wires, no cables! Take the handset with you. The new generation DSE cordless phone also doubles as a two-way intercom. Advanced features include, pulse dialling, user selectable security code system to prevent others using your line (100,000 different codes selectable), new operating frequency (30/39MHz), two way handsfree intercom, automatic standby select when handset is in cradle, automatic redial, volume controls on both base unit and handset, five differing operating channels available, automatic handset charge while in the base, wall or desk mount... the list goes on!! This amazing telephone will bring you into the twenty first century and it comes complete with built-in NiCad batteries, 240 volt adaptor — everything! Just plug it in and you can forget about rushing to the phone... forever! Cat F-5818

Shipping weight: 1.77kg
Shipping size: 345 x 260 x 95mm

NEW FOR 87

$295

- **Security Coded: no-one else can use your line**
- **Full Intercom facility: very handy**
- **New operating frequency: less interference**
- **Can completely replace your exisiting phone**

Convenient auto-phone with 'music

$49.95

- **12 number memory**
- **Music button**
- **Last number redial**
- **Pause button for PABX**
- **Mute button**

Add a new dimension to your conversation! DSE's superb Auto Phone offers all the most wanted features PLUS more than you thought possible from a home phone. 12 number memory allows you to store frequently used or emergency numbers for simple, quick single touch of a button dialling. And if the last number you dialled is engaged, there's no need to dial the whole number again... the Redial button automatically dials the number whether it's in the memory or not. The handy Mute assures total privacy by preventing the other party from listening to your conversation with someone in the same room: ideal when you have to check with you spouse on a dinner date with friends. And if that weren't enough, a brilliant Music button plays a melody to callers while you keep people on line.

Shipping weight: 326g
Shipping size: 235 x 75 x 70mm

Cat F-1184

Telephone Wall Bracket

Have a second phone in the kitchen? Or maybe you prefer to keep your main phone on the wall out of the way? Then you need a wall bracket! Our DSE bracket is ideal for today's popular range of one piece phones. Easy to install, comes with screws for immediate mounting. Cat F-1185

Shipping weight: 326g
Shipping size: 235 x 75 x 70mm

5.95

No need to hold on!

Fantastic idea for those long business (or private) calls, leaves your hands free to take notes, etc. The Telephone Shoulder Pad simply adheres to the receiver and allows it to rest on your shoulder during those long winded calls. Soft rubber construction makes it extremely comfortable! Cat F-5300

Shipping weight: 113g
Shipping size: 250 x 140 x 80mm

$4.95

All 'new' for '87!!

More than we've ever seen in a Telephone Answer Machine before!

The DSE Home Secretary

We've never seen so many features in a telephone system before! The amazing DSE Home Secretary. It's a push button phone with memory, redial, mute button, ringer On/Off... the lot! It's also an answering machine with up to 10 preprogrammed message combinations. It's a fully functioning cassette player/recorder with automatic rewind, fast forward and reverse. It's an AM/FM radio. It's a digital clock/alarm with snooze feature and much, much more!! Little wonder we call it the Home Secretary! It's designed to make your life easy. The 3 mode alarm function lets you choose how you want to wake up — radio, tape, alarm tone... whatever! Cassette/radio automatically mutes when you use the phone. Preprogrammed messages answer with your number and allow you to leave a contact number. Handset can be wall or desk mounted. All this and more at a DSE value-for-dollar price! Cat F-6150

NEW FOR 87

$229

Hands-free Telephone with Alarm Clock Radio

Exceptional value for a hands-free phone that would be ideal by the bed. Just think about it, at the touch of a button you can answer the phone without disturbing your rest! Clock features large LED display for easy reading, snooze function, selectable wake-up modes and sleep function. Phone is modern style push button with mute, redial and ringer On/Off. Hands-free operation is via a convenient top mounted button. With separate telephone volume control and automatic radio shut-off when telephone is in use. Illuminated AM/FM radio display. Cat F-5104

NEW FOR 87

Shipping weight: 1.75kg
Shipping size: 330 x 280 x 140mm

$99.95

New for '87

16 memory Hands-free Loudspeaking Phone

The ideal office companion — even at home! It's the perfect telephone for busy people. Features 16 single touch memories so those important calls are always at your finger tips. Loudspeaking mode allows you to make or answer calls without interrupting your work. Features include adjustable speaker volume, mute switch, 16 single touch memories, handsfree operation, Hookflash for PABX use, adjustable ringer level, Tone/Pulse switchable, battery backup facility, desk or wall mountable and more!

Cat F-5136

$179

NEW FOR 87

The DSE Fashionable Economy Phone

If you're not onto this fantastic value, feature packed Economy Phone — you've got the wrong number! It's probably the lowest priced, feature packed phone available... and, of course. Perfect as a replacement or as a second phone. In five fashion colors you can co-ordinate with the decor in every room. Attractive styling, features modern push button dialling, last number redial, mute button and ringer On/Off switch. Comes complete with coiled cord, wall plug and wall bracket!

White Cat F-5185
Red Cat F-5186
Pink Cat F-5187
Blue Cat F-5191
Brown Cat F-5192

Telecom Authorisation: C82/30/5

$19.95

Telephones

Slim-line Phone/Alarm Clock

Maybe it's 'time' for a new phone? Then why not combine it with a LCD alarm clock for real versatility: ideal for home/bedroom, study or office. The superb phone features last number Redial and Mute privacy buttons plus a Ringer On/Off switch. The full featured alarm clock boasts 24 hour alarm setting, snooze button, night back light plus all time/alarm setting controls. The phone rests neatly in the alarm clock cradle, making it a very attractive part of your surroundings. Cat F-5175

$29.95

Telecom Authorisation: C82/30/25

- **Phone with Redial and Mute**
- **Alarm clock with snooze and 24 hour alarm**

Shipping weight: 31g
Shipping size: 145 x 100 x 40mm

Telephone Amplifier

A great idea for the hard of hearing or when you're sick of holding onto the phone! The Telephone Amplifier connects to your phone via a suction cap — so there's no electrical connection required. Everyone in the room can listen, so it's ideal for those long distance 'family' calls. Battery operated (not supplied) with adjustable volume control. Comes complete with pick-up and one metre cord. Cat F-1174

Shipping weight: 250g
Shipping size: 155 x 97 x 53mm

$19.50

Bits to make your Telephone better

15m Cord With Double Adaptor

15m of phone freedom — **plus** a double adaptor for your cordless phone, answer machine, etc. Cat F-5103

Telecom Authorised

$16.95

10m Cord With Double Adaptor

A little shorter, a little cheaper. Also includes double adaptor! Cat F-5115

$12.95

Telecom Authorised

Push Button Converter

Now you can have the benefits of push button dialling without the need for a new phone. DSE's push button dialler quickly and easily converts any standard rotary dialling phone. And with no soldering — it's easy to install!! Kit comes complete with instructions. As soon as it's fitted you'll have last number redial and LED indicator. (Intended for private exchange phones —not approved for installation into Telecom phones.) Cat F-1175

Shipping weight: 125g
Shipping size: 118 x 118 x 47mm

$27.50

Phone plug and socket

Easy connection for standard Australian phone systems.

Plug Cat F-5117
Socket Cat F-5118

$4.50

10 Memory Wall or Desk Mount Phone

A quality wall or desk mount phone with all the right features! The fully modular connection system makes it a breeze to install. Unlike some modern phones the sound quality is superb, and the stylish contemporary design looks great with just about any decor. Features include 10 (18- digit) memory, sturdy construction and slim-line modern design, push button convenience, ringer ON/OFF with flashing LED for off mode, volume control, last number redial, mute and access pause for PABX systems, pulse dialling and much more! Cat F-5180

Telecom Authorised

Shipping weight: 920g
Shipping size: 310 x 145 x 105mm

$69.95

Phone Extension Reel

What a great idea! Phone extension reel is the affordable alternative to a cordless phone and saves you the expense of adding a second or even third extension. Simply plug in the extension cord to your phone and off you go. 15 metre length provides 'miles' of freedom to move about the house or even outside, on the patio. Saves all the trouble of getting up to answer the phone and lets you make calls in private. A retractable spool prevents any possible danger of tripping over a tangled cord. Features a convenient carry handle. Cat F-5113

Telecom Authorisation: C85/1/52

$18.95

Shipping weight: 381g
Shipping size: 235 x 83 x 125mm

Telephone Double Adaptor

$9.95

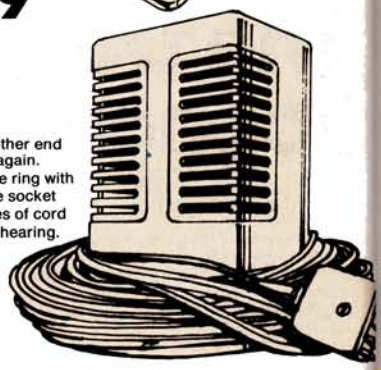
Now you can plug two phones in, or a phone and an answering machine! Cat F-5112

Shipping weight: 31g
Shipping size: 145 x 100 x 40mm

Shh! Is that the Telephone?

If you're in the garden, workshop or just the other end of the house you need never miss the phone again. The Telephone Extension Bell lets you take the ring with you. Simply plugs into your existing telephone socket (with adaptor supplied) and gives you 5 metres of cord and extension bell. Also great for the hard of hearing. Cat F-5119

$19.95



Shipping weight: 390g
Shipping size: 265 x 190 x 55mm

Simply... Unbelievable!

Call Forwarding 2 Tape Answering Machine

Totally programmable — totally controllable

You won't believe that an answering machine could offer so much — at such a low price. But then it's much, much more than an answering machine. Just look at the incredible features this state-of-the-art machine has to offer:

- **Call-forwarding** — machine will automatically dial a chosen number and replay the message immediately after it is left by a caller! It will even handle STD and ISD numbers — up to 20 digits.
- **Emergency Message Sending:** It will respond to any pre-determined emergency (eg your burglar alarm going off, a medical alert, etc etc) by dialling a number and (when it hears a voice!) playing the emergency message ("Fire at 66 Smith Street" — or any other message you want to record). This function operates EVEN IF the machine is in the middle of another function or the telephone line is in use — and keeps re-dialling (up to three times) if it doesn't get an answer.
- **Security coded:** no-one else can ring in and listen to your calls, because only you know the security code. And you can change it whenever you like.
- **"Memo" function** — record a message for your family, business partner, etc etc — and they can access it by ringing in from another phone.
- **Answer delay** — you can select the "ring" at which the answering machine will answer — gives you time to get to the phone if you're present.
- **Total remote control:** from any DTMF phone (most new phones these days have DTMF function) or optional remote DTMF beeper you can control every function — even change the announcement, change the call forward number, etc etc etc! AND you can switch this function off if you wish.

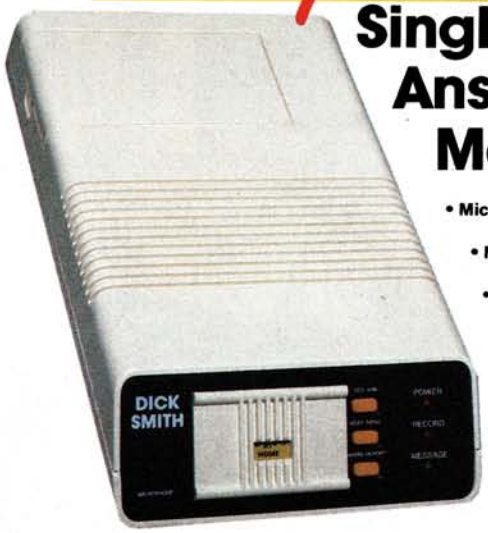
Plus, of course, the "usual" answering machine features — yes, it will answer calls for you and allow messages to be left! (or answer only if you wish...). We're convinced this is simply THE BEST answering machine available — anywhere — at anything like the price (or much more). For business, for home, for anywhere. Cat F-6145

NEW FOR 87

$349

Shipping weight: 2.7kg
Shipping size: 390 x 265 x 105mm

Single Tape Answering Machine



- **Microprocessor controlled for reliability.**
- **Monitor mode (listen to incoming calls).**
- **VOX (voice activated) message time — up to 60 sec. each.**
- **VOX remote control.**
- **Uses standard cassettes.**

$229

Imagine an economy single tape telephone answering machine with more advanced features than most dual taped machines! This fantastic machine has got to be the simplest of all to use... in fact, the solid state microprocessor circuitry is actually activated by the slide of a button. Revolutionary VOX (voice activated) remote control — no costly beeper required. Voice activated message time means more messages per tape and no wasted space. Unbelievable value!
Cat F-6130
Telecom Authorisation: C83/16/48

Phone & Answer Machine

The best of both worlds: It's a full function push button phone AND an answering machine: all in one handy unit. Takes up less space, doesn't need two phone sockets or double adaptors, yet gives all the features of both.
Single tape unit uses standard audio cassettes, and you only need record your outgoing message once. Retrieve messages left from any phone — anywhere.
Cat F-6140

$269

Telecom Authorisation: C85/16T/105

Shipping Weight: 2.5kg
Shipping Size: 340 x 260 x 110mm

Budget-Priced Answerer

With 'Synthesized Voice'

Our most affordable answering machine priced for the small business or home. but don't let the low price fool you... new technology offers a wealth of features. An amazing 'built-in' female synthesized voice allows the single tape to record more messages than other single tape answering machines. • 40-Second recording time permits callers to deliver a full message. Plus: • 8-Second VOX auto-off • 3 Ring delayed trigger • Call screening and telephone monitor • Volume control • 'Power' and 'Auto Answer' LEDs. All this packed into a compact unit which uses standard size cassettes. Includes power adaptor and Telecom approved phone plug. Cat F-6125
Telecom Authorisation: C86/16/10

$99

Shipping weight: 1.22kg
Shipping size: 238 x 234 x 80mm

Two Line Answering Machine Switch

A great idea for the small office or shared premises! The Two Line Answering Machine Switch allows you to use one answering machine for two lines. If your go out to lunch you can leave one line on the answering machine and the other line is free for your partner. Or you can both share the one machine. Think of what you'll save on interruptions, let alone a second answering machine. Cat F-1010

NEW FOR 87

$120

Shipping weight: 420g
Shipping size: 170 x 175 x 68mm

Neg Ion Generators

Clean, fresh air.

Aironic 2000

Take a step towards better living with the Aironic 2000 air freshener/ionizer. Cigarette smoke, pollen and airborne bacteria can accumulate in rooms and be detrimental to your health. And many air conditioners rob rooms of negative ions so vital to a properly balanced environment. Simply opening a window can't solve the problem — it may even aggravate the situation. But the Aironic 2000 cleans, freshens and recharges the air you breathe with an effective three step process:

- **A powerful fan draws in air trapping minute dirt particles in an advanced filtering system.**
- **A built-in ionizer charges the drawn-in air with negative ions.**
- **The quiet 4-speed fan disperses invigorating air into your every part of the room. You'll feel the difference.**
- **Use the Aironic 2000 in homes, offices and even large public areas, such as restaurants or convention rooms. It's the 'fresh' approach to better living!**

Cat Y-9006

Shipping weight: 463g
Shipping size: 325 x 115 x 120mm

$449

Your personal Negative Ion Generator

At home or the office.

Want to feel a tingling freshness? A better environment for concentration? For many, negative ion generators are the solution to rooms or offices choked with cigarette smoke and pollutants or robbed of vital negative ions by air conditioners. The personal negative ion generator sits next to you on a desk or nearby shelf — anywhere it can be plugged into a standard 240V power point: it uses so little power it won't even turn the meter. Try a negative ion generator today — enjoy the difference! Cat Y-9000

Shipping weight: 287g
Shipping size: 122 x 80 x 80mm

$69

For the car.

Alertness is essential for safe driving, especially on long trips. Drowsiness could be the result of your car's air conditioner, lingering cigarette smoke or just the drain of peak hour traffic. Why take a chance? Use a negative ion generator. It simply plugs into your car's cigarette lighter, charging the cabin with invigorating negative ions. Arrive at work fresh... and it's perfect for sales representatives, taxi drivers and truckies.
Cat Y-9002

Shipping weight: 268g
Shipping size: 125 x 110 x 80mm

$69

BE FOUND IN THE CROWD..

Get the full message with Alpha-Numeric display

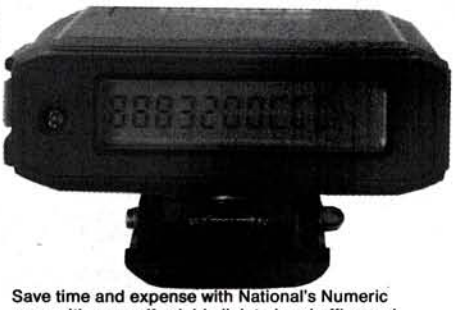
No need to phone back the office or answering service. Receive the full message immediately — on the spot: who called, the reason, a contact number... anything! This is National's top of the range pager with a host of impressive features which makes it an essential accessory for the busy executive or sales representative. There's no need to interrupt important meetings to answer your pager. A 1200 character capacity memory automatically stores messages: up to 400 characters per message... or 20 individual messages. And this pager thinks for itself: duplicated messages aren't stored a great memory saver! Need to substantiate messages... perhaps for FBT? The National pager features an (optional) computer printer facility for hard copies of received messages. The cost? Much less than you would imagine for the advanced features and convenience. Add to our already low price a small $12 connection fee and $35 per month service charge, and you're ready to have that competitive edge.

Sydney Cat D-1022, **Melbourne** Cat D-1023, **Brisbane** Cat D-1024, **Adelaide** Cat D-1025, **Perth** Cat D-1026, **Canberra** Cat D-1027

$569

Numeric pager...

It's No. 1 for any business!



Save time and expense with National's Numeric pager. It's your affordable link to head office and clients —even connects to business or home security system too. There's no need to waste time ring the office or answering service. The 20 digit LCD displays all relevant information for quick action: phone numbers, pre-arranged codes for clients, errands or messages. You'll wonder how you ever did business without it! Eight memories store the latest four 20 digit messages while you're in an important meeting or behind the wheel on your way to another appointment. It really is the convenient way to service clients. And for the far ranging sales representative, **a service area indicator** warns if you are outside the contact area. It's features like this which make the National Numeric pager stand apart from other paging systems. It doesn't take much to improve your business chances with National's Numeric pager. Only a $12 p.a. connection fee and $18 per month service charge puts you in front of the competition.

Sydney Cat D-1012, **Melbourne** Cat D-1013, **Brisbane** Cat D-1014, **Adelaide** Cat D-1015, **Perth** Cat D-1016, **Canberra** Cat D-1017

$249

If you thought pagers were too expensive, think again!

*** Economy pager for professionals, small businesses and families.**

NEW FOR 87

National's Tone pager is the affordable alternative that brings 'one phone call' contact within the reach of small businesses and professionals. Families, too, can take advantage of easy communication: Parents can keep track of children. Sick or elderly relatives can call in emergencies. The pager can even be linked with home security systems to provide immediate warning of break-in. Four different tone capability (optional) adds real versatility, providing pre-arranged coded messages or instructions — simple yet very effective! Best of all, National's Tone pager is inexpensive to operate. It uses one 'AAA' battery (very economical). A service charge of just $9 per month for one tone line... slightly increasing with the number of tones used. Plus $12 connection fee per tone.

Sydney Cat D-1032, **Melbourne** Cat D-1033, **Brisbane** Cat D-1034, **Adelaide** Cat D-1035, **Perth** Cat D-1036, **Canberra** Cat D-1037

$149

Torches

Need a little light?

For a comprehensive range of torches, flashlights, emergency lights... in fact, just about any portable lighting problem, drop into your nearest DSE store. For value, experience and range you might say we're the light at the end of the tunnel.

NEW FOR 87

A. **Halogen Flashlight** — modern streamlined design and super bright beam. Cat Y-1078 **$11.95**

B. **Super Bright Halogen Eveready Torches.** Waterproof torch that's ideal for the boat (it floats) and camping. Cat Y-1076 **$21.95**

C. **Halogen Lantern** with emergency flasher makes a handy car or work accessory. Cat Y-1077 **$35.95**

D. **Pocket Light** — outshines most other mini torches. Cat Y-1079 **$6.46**

Dynalite 4 in 1 Fluoro Lamp

A fluoro lamp. A spotlight. A blinker. And a car trouble light. All in one handy pack! Works from internal batteries (6 x 'D' cells — not supplied) or plug it into the car cigarette lighter (lead supplied). A must for the motorist, camper, fisherman, etc. Great value.
Cat Y-1086

Shipping weight: 55g
Shipping size: 285 x 100 x 75mm

$22.50

Rechargeable Emergency Lantern

Now, you'll have light whenever you need it. With Eveready quality and reliability the rechargeable Emergency Lantern will keep you out of the dark. Features 2 hours continuous use when fully charged, automatic switch turns lantern on if power supply fails, short circuit protection and more! Comes complete with wall mounting/charging bracket and plug.
Cat Y-1092

Shipping weight: 880g
Shipping size: 210 x 140 x 160mm

NEW FOR 87

$39.95

Hand-Held Spotlight

Quartz Halogen Power

Here's fantastic light output: quartz halogen power for general purpose spotlamping. A super bright 55 watt quartz-halogen bulb (replaceable) in a sturdy PVC protective case, complete with hand grip. Cigarette lighter plug and cable included. Cat Y-1084

Shipping weight: 580g
Shipping size: 170 x 120 x 90mm

$18.95

A bright idea

Why hasn't someone thought of this before? Now at DSE you can have your very own, personal Head Light (and you don't need a fender to bolt it on). The Head Light torch comes with an adjustable elastic belt so it fits any head. Ideal for cyclists, roadside car repairs, fishing, camping... anywhere you need a reliable torch light that always shines in the direction you're looking! Cat Y-1073

Shipping weight: 110g
Shipping size: 115 x 85 x 60mm

$4.95

NEW FOR 87

Fluoro Car/ Camping Light

Attractive woodgrain-finish end plates and translucent diffuser makes this fluoro car/caravan/camping light a must for the traveller. Specially made to suit negative or positive earth 12V systems, complete with a 2m cable and cigarette lighter plug. Cat Y-1082

Shipping weight: 355g
Shipping size: 390 x 100 x 40mm

$18.95

It shines round corners!

NEW FOR 87

The amazing Flex Light! Ideal for working in those tight, dark spaces; it can actually see round corners. Flexible head lets you see in those impossible places when you're working on complicated equipment or in awkward places around the car, etc. A great idea for technicians, hobbyists... anyone.
Cat Y-1083

Shipping weight: 70g
Shipping size: 115 x 185 x 35mm

$5.50

$9.95

Scope Light

Mini magnifying glass with inbuilt lamp for throwing a little light on the subject. 10 times magnification ideal for examining pcb's, components, stamps, general hobby work, etc. etc. Takes single 'AA' battery; complete with lanyard.
Cat Y-1080

Shipping weight: 30g
Shipping size: 70 x 50 x 25mm

Buy now, pay later: credit terms available to approved purchasers

Radio Control

Omnibot.

Your Electronic Butler!

He's a fantastic mechanical marvel who can do just about anything. Program him to wake you in the morning, remind you about important dates, greet guests, serve drinks at parties and much, much more! Features built-in cassette deck, speaker and digital clock/timer for setting the exact second to play pre-recorded music, messages, etc. PLUS you can operate Omnibot with remote control handset (includes remote mic). Omnibot, useful, practical and fun! Cat Y-2050

Shipping weight: 7.4kg
Shipping size: 480 x 420 x 390mm

$399

Rhythmic 2 Portable Keyboard

It's like having a symphony at your fingertips! Features include separate master/accomp. volume, sustain, vibrato, 10 built-in instruments, 4 octave range and more. Play your own chords or select single finger chords. Select up to 10 adjustable rhythm modes. Even if you can't play — it'll sound as if you can! Cat Y-7008

Shipping weight: 2.1kg
Shipping size: 660 x 230 x 90mm

$119.95

Hey Maestro!

Play us a tune?

With the DSE Mini Organ it's as easy as can be. Program your own tunes and anyone can deliver a great performance. Features include vibrato control, four step volume and more! Why not select one of the eight preprogrammed tunes and fool the friends? It's outstanding value and makes an ideal gift. Cat Y-7009

Shipping weight: 635.1g
Shipping size: 410 x 150 x 70mm

$29.95

The all 'new' built-up RUNNER

INCLUDES REMOTE CONTROL

Fantastic value for a two channel remote control racer! Packed with features and performance. With 3 speed digital proportional, forward left/right and reverse left/right. The complete fibreglass sub-chassis means extra strength for that rough treatment. Through it all the Mabuchi 540S motor supplies all the power and reliability you'll need. Take control and you'll take the flag! Cat Y-2545

Shipping weight: 2.235kg
Shipping size: 500 x 200 x 320mm

BATTERIES NOT INCLUDED

$225

6WD Offroad Rider

It goes anywhere! 6WD, dual speed gearbox, swinging body, climbs 45° inclines, durable plastic construction, hollow tyres — and all at this great value price! At this low price it makes a great value gift for kids 3 years and up. Cat Y-2512

Shipping weight: 500g
Shipping size: 210 x 140 x 120mm

$20.95

2 Channel Digital Proportional R/C

Super response R/C that adds 'realism'. Features extended range on the 29MHz band. Forward, reverse and left/right joysticks with slide-action selectable control. Adjustable neutral position. Spring or ratchet throttle control. Servo reverse switches. Interchangeable control stick action for left/right operation. A power output meter and LED power indicator. The narrow band, high performance interference for optimum performance. Indirect drive servos are housed in water resistant, high impact cases and provide total gear train protection. Output torque: 3kg/cm. Cat Y-2544

Shipping weight: 860g Shipping size: 285 x 250 x 115mm

$165

NiCad Fast Charger

$52

Always keeps your NiCads powered up, ready for action. Re-charges in 15 minutes. Built-in timer automatically cuts-off to trickle charge. Operates off 12V DC input. Cat Y-2546

Shipping weight: 490g Shipping size: 165 x 140 x 80mm

Charging Leads

Charge your NiCad direct from a car battery. Cat Y-2521

$10.45

R/C Leopard Tank

Here's one for Dad — or the kids. Great value for a radio controlled, true to life action toy. Comes complete with transmitter with up to 50ft range. Eight functions including left/right, forward/reverse, gun fire light AND sound. It's just like the real thing! These are the war games that everyone will want to play. Batteries: 2x9V (006P) transmitter/tank 3xUM 2 (C-Cell) tank. (Not Supplied) Cat Y-2506

Shipping weight: 795g
Shipping size: 360 x 170 x 100mm

$73.45

Your own hand-held Video Arcade.

And you won't spend all your pocket money!

Space Revenge — Can you get the invaders before they get you? They're coming at you from six different altitudes and you've got to beat their magnetic shield system. The fate of the entire game depends on it. Cat Y-7800

Shipping weight: 55g
Shipping size: 100 x 67 x 8mm

$24.95

Soccer — Here's your chance to play the World Cup. Do you want to play soccer like Craig Johnson? Well, this will teach you how. There's all the action of a real game and it's all in the palm of your hand. Cat Y-7780

Shipping weight: 80g
Shipping size: 140 x 80 x 20mm

$14.95

Mermaid — This will test your speed and skill. Save the beautiful mermaid from the mangy old shark. But watch-out or the squid will have ya both! Cat Y-7781

Shipping weight: 80g
Shipping size: 140 x 80 x 20mm

$14.95

Nursery — Try looking after a bunch of demanding kids and every time they cry you lose ten points. No-one can win at this game! Cat Y-7782

Shipping weight: 80g
Shipping size: 140 x 80 x 20mm

$19.95

Coffee House — No, it's not a relaxed outing with a friend. Try to serve the customers before they get angry. Anyone who's ever worked in a coffee shop will know it's impossible. Makes its own sound effects. Cat Y-7783

Shipping weight: 80g
Shipping size: 140 x 80 x 20mm

$19.95

Formula One — After a few runs at this you'll be ready for Adelaide. Beautifully designed to fit snugly into the palm of your hand. Has two levels of play and built-in alarm clock. Cat Y-7808

Shipping Weight: 80g
Shipping size: 150 x 110 x 40mm

$24.95

Cat Y-7809

Invaders — Designed like Formula One this one's great for the Sci-Fi enthusiast. Also has built-in clock. All the thrills of a star wars adventure right in the palm of your hands. With two levels of play and sound effects it makes for hours of fun. Cat Y-7809

Shipping weight: 80g
Shipping size: 150 x 110 x 40mm

$24.95

Miscellaneous

Counting on health

How far should health take you? The Walk-A-Jog tells you just how far you've been. Clip this compact device to your belt and it measures your footsteps — automatically! Don't take a chance with over (or under) work. Stick to your exercise plan accurately. Walk-A-Jog; your first step towards better body management. Cat Y-5020

Shipping weight: 58g
Shipping size: 90 x 90 x 50mm
$29.95

Digital Blood Pressure Meter

Now keeping check of your blood pressure is as easy as checking your weight! The Copal Sphygmomanometer uses the oscillometric method for greater accuracy. Checks pressure 20-280Hg and pulse 40-200 per minute. Cat Y-5010

Shipping weight: 200g
Shipping size: 180 x 145 x 55mm
$99

Digital Blood Pressure Meter

With data 'printout'

Top of the line Copal with automatic pressurization and measurement. Huge 17mm display characters make it easy to read. Features 14 memories and three printout modes including graphic so you can keep hard copy records. Keeping a check on your health is simply a breeze! It's worth getting sick just so you can use it! Cat Y-5012

Shipping weight: 620g
Shipping size: 250 x 215 x 70mm
$345

Digital Skipping Rope

Now you can concentrate on your skipping and leave the counting to itself. 'My Jump' makes it easy. The digital counter in the handle records how many times you've skipped! Cat Y-5030

Shipping weight: 178.6g
Shipping size: 190 x 80 x 40mm
$9.95

For your wellbeing

Digital Thermometer

The accurate, scientific way to take your temperature. The Sharp Digital Thermometer is a must for the medical cabinet. Featuring 3.5 digital display, automatic battery cut-off and it comes with clear protective case. Cat Y-5000

Shipping weight: 22g
Shipping size: 150 x 30 x 10mm
$18.50

Digital Thermometer with 'alarm'

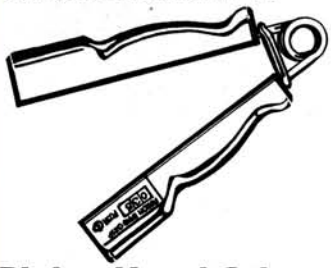
This makes temperature taking a breeze! Digital readout is easy to read and just to make it easier there's a flashing red indicator and 'beeping' alarm to warn you of high temperature. Cat Y-5005

$23.95

Personal Fitness Computer

The DSE Exercise Monitor helps you tailor an exercise program for yourself! Special feature is an alarm which warns you if you're overworking. Measures calories burned, heart rate, fitness level for a particular excercise, distance covered, speed and much more! Cat Y-5019

Shipping weight: 380g
Shipping size: 23 x 15 x 5mm
$99.95



Pinion Hand Grip

Keeping record of your exercise can be easy! The Pinion Hand Grip keeps an accurate digital count of your exercise for you. Hand exercise can help develop muscles, improve circulation and promote better health. It doesn't matter what sport you're into: Pinion Hand Grip can help! Cat Y-5026

Shipping weight: 177.3g
Shipping size: 230 x 150 x 30mm
$9.95

'Keyfinder'

Anyone who still has their keys, owns a Keyfinder! If your keys go astray, just let out a whistle and Keyfinder beeps out a rescue call. Clip it to your keyring and say "Goodbye frustration!" "Goodbye wasted time!" "Hello keys!" Now Keyfinder is even better value than last year. At this low price you can buy one for yourself and one for an absent minded friend. Cat Y-1070

Shipping weight: 30g
Shipping size: 120 x 80 x 20mm
$9.95

Credit Card Security

Card Guard is the best invention since plastic money. The Card Guard Wallet won't let you lose a valuable credit card: if you pocket it without the card it beeps out a continuous warning. This fully lined, standard size wallet has room for three cards and comes complete with batteries. Room for cash and drivers license as well! Cat Y-1072

Shipping weight: 80g
Shipping size: 13 x 11 x 2mm
$14.95

The Amazing 'Whistle Light'

Here's an end to stumbling around in the dark! Just give a whistle and the light turns itself On — or Off. The versatile Whistle Light can be wall or tabletop mounted and uses four 'C size' batteries or a 6V DC adaptor (not supplied). With three adjustable angles and an extendable head for maximum lighting affect. Ideal for home, office, caravan, workshop — anywhere! Cat Y-1071

Shipping weight: 250g
Shipping size: 17 x 15 x 6mm
$24.95

Stress Control

Here's the solution to being strung out. The Stress Control Card tells you when it's time to relax. About the same size as a credit card it fits neatly into your wallet. Makes a great gift! Cat Y-5016

Shipping weight: 5g
Shipping size: 90 x 50mm
$1.95

Coughing Ashtray

It'll be the life of the party! Looks just like an ordinary ashtray, but then, it doesn't behave like one. Put a cigarette butt into it and it coughs, splutters and actually tells them what a disgusting habit it is. Smokers or non smokers, they all love it. Battery operated (not supplied) it makes a great conversation piece. Cat Y-5060

Shipping weight: 438g
Shipping size: 140 x 130 x 130mm
$19.95

Anyone for chess?

COMPANION III

Ideal for the beginner up to the regular club player! Companion 111 contains a powerful 16K program that will beat up to 90% of regular club players (or so they say!). Features instant response, 17 playing levels: 9 casual, 6 club, 1 analysis and 1 problem solving to Mate-in-10. Runs on 3 x AA batteries and they'll give you over 150 playing hours. Cat Y-7063

Shipping weight: 1.2kg
Shipping size: 35 x 26 x 7mm
$299

TURBO 16K

Here's the 'big daddy' for the serious player. For the real enthusiast or the club player the Turbo 16K is a must. Featuring two LCD digital chess clocks which automatically keep track of each players elapsed time. With an Elo estimate 1850, the high speed 12MHz program is suitable for over 92% of players. Features 17 levels of play including 6 club levels, an analysis level and a problem level. Cat Y-7064

Shipping weight: 1.5kg
Shipping size: 42 x 28 x 8mm
$329

Buy now, pay later: credit terms available to approved purchasers

Want a job? Better computer skills? Type-Right can teach you.

Learn touch typing to 45 w.p.m. or more!

Students, executives, job hunters... anyone can benefit from fast, accurate typing skills. Why enrol in expensive classes? Type-right can teach you for a fraction of the cost, in the privacy of your home at your own pace. The computerised keyboard provides lessons — with increasing skill levels — to familiarise you with the keyboard. A game function makes learning fun while introducing speed typing. Type-right monitors your progress all the way: a Speed key checks typing speed and an Error function calculates and displays the number of mistakes. Cat Y-7100

Shipping weight: 1.1 kg
Carton size: 22 x 2 x 142cm

$69

Learning Window... makes learning a breeze!

Children respond more easily to visual stimuli. Learning Window uses pictures and sound to enhance the learning process: turns math, spelling and music lessons into fun games. They can create pictures on the large LCD screen, solve puzzles... all while learning at the same time. Optional voice cartridge and lesson programmes available. Cat Y-7105

Shipping weight: 1.2 kg
Carton size: 30.25.5 x 17.5cm

$99.95

Voice cartridge: asks questions, confirms answers and provides difficult answers. Cat Y-7110 **$39.95**

Shipping weight: 105g
Shipping size:17 x 13 x 3cm

Number Power: five math areas with literally thousands of problems to solve. Cat Y-7115 **$19.95**

IQ Builder: number, letters and shape matching all combine for a powerful learning aid. Cat Y-7120 **$19.95**

Alphabet Soup: 50 new words to learn by matching pictures. Cat Y-7125 **$19.95**

All cartridges:
Shipping weight: 160g
Carton size: 25 x 20cm

Whiz-Kid: the kiddies computer!

The fun way for children to learn. Whiz-Kid looks and works like Mum's and Dad's computer: load question cartridges, enter answers on the keyboard. An animated LCD display (with sound effects) entertains while developing math, word, musical and logic skills. Wide range of question cartridges available. Cat Y-7155

Shipping weight: 1.2 kg
Carton size: 25.5 x 25.5cm

$79.95

Alphabet Fun: develops letter recognition, spelling, word power and reading skill. Cat Y-7160 **$19.95**

Numbers Fun: increases counting, addition and subtraction ability. Cat Y-7165 **$19.95**

Words Fun: stimulates comparatives, spelling and reading techniques. **$19.95**

Encyclopedia JR: everything you've ever wanted to know about everything. Cat Y-7176 **$19.95**

IQ Builder: develops logic using geometric shapes, spacial relationships and comparisons. Cat Y-7180 **$19.95**

All cartridges:

Shipping weight: 220g
Carton size: 29 x 14 x 3cm

Talking Lesson One: the "speaking" computer!

Children will be fascinated by this computer-like educational aid. • A computer voice teaches how to pronounce words coupled with spelling — 120 words in all! • Math lessons teach addition, subtraction and multiplication. • Musical activities develop memory and basic composition skills. Talking Lesson One is fully expandable with additional lesson cartridges. Cat Y-7130

Shipping weight: 1.061kg
Carton size: 250 x 250 x 150mm

$79.95

Lesson cartridges containing 7 spelling and word games based on entertaining stories:

A Day to Bake Cat Y-7135 **$19.95**

Dress Up and Theatre Cat Y-7140 **$19.95**

Let's visit the Zoo Cat Y-7145 **$19.95**

Rocket to Zenod Cat Y-7150 **$19.95**

All cartridges:
Shipping weight: 173g
Carton: 220 x 190 x 30mm

Music Major... makes learning music fun!

Here's the key that opens the door to the wonderful world of music for your children. They'll learn how to play tunes, recognise any of the pre-programmed rhythms like the Bossanova, Waltz or Swing... 12 in all! Plus add drum and animal noise accompaniments. A Record function plays back tunes to monitor progress. A built-in sing-along amplifier and mic adds to the fun. Requires 6 'C' size batteries or 9V adaptor. Cat Y-7220

Shipping weight: 1.3kg

$89

"Talking Whiz-Kid Computer"

Up to the minute learning aid that combines all the elements kids love. It looks and works like a real computer; teaches maths, spelling, music and more with educational games cartridges using proven audio/visual techniques. Your children may think it's a marvellous toy, but in time they'll learn the difference! Requires 6 'C' size batteries or 9V adaptor. Cat Y-7230

Shipping weight: 970g

$129

Calculators

Business/Financial

EL-533. Get to the bottom line faster! Performs all standard calculations plus specialist statistical and financial functions. **Statistical mode:** single and two variable statistics, linear regression. **Financial mode:** calculates accounts, repayments, cash flow analysis and much more. Cat V-3830

Shipping weight: 297g
Shipping size: 190 x 110 x 30mm
$79

Budget Scientific

EL-531A. All the essential features for high school and Uni students: **• 15 Levels of parentheses and four levels pending • 34 Programmable functions: trig and inverse trig, logarithms, statistical calculations and more.** Cat V-3865

Shipping weight: 204g
Shipping size: 15 x 8 x 4mm
$27

Printer Roll Paper

Thermal paper rolls to suit Sharp's EL-8181. Packet of 5 rolls. Cat V-3802

Shipping weight: 34g
Cylinder size: 90 x 20mm
$3.10

Colour by numbers...

The calculator is now a fashionable accessory with these stylish, super slim 8 digit 'numbers'. Unique rounded keys (including memory) with modern solar power operation. Available in 4 exciting colours to suit your personality or office decor. **Grey** Cat V-3500, **Pink** Cat V-3501, **Blue** Cat V-3502, **White** Cat V-3503

Shipping weight: 94g
Shipping size: 150 x 95 x 20mm
$14.95

The Great Desk Mate

A multi-function desk companion in the shape of a mini computer... it's ideal for a computer buff because it's so practical. **Features: • an 8 digit calculator with floating decimal, overflow error indicator and beeping keyboard • A digital clock displaying hours/minutes/seconds, AM/PM and 24-hour alarm. • Built-in pencil sharpener.** Cat V-3095

Shipping weight: 75g
Shipping size: 95 x 70 x 60mm
$14.95

Scientific

EL-512. The professional featured calculator affordably priced for students. **Features: • 9 memories • Trig and reverse trig functions • Hyperbolic and inverse hyperbolic • Logarithms • Reciprocals • Angle/time, co-ordinate and hexadecimal to decimal conversions • Statistical calculations... and more!** Cat V-3825

Shipping weight: 207g
Shipping size: 140 x 80 x 40mm
$69

Calculator/Information Centre

EL-6150. Pocket the difference! A handy calculator with information storage capability for up to 200 names and phone numbers, expenses — categorised alphabetically or by city, and a handy Memo function for appointment reminders or important notes. All information is easily retrieved for display on a 24 character LCD screen. Cat V-3875

Shipping weight: 249g
Shipping size: 130 x 80 x 40mm
$150

Slim-line Solar

EL-240H. An excellent calculator that saves money in more ways than one! It's so slim and compact, you can take it to the market for adding up the grocery list, balance the family budget or take it to the office. And being solar powered there are no batteries to buy — a real $$$ saver! 8 Digit display with memory. Cat V-3855

Shipping weight: 70g
Shipping size: 130 x 80 x 20mm
$13.50

Pocket the difference

Add up the value: a superb mini calculator for under $5! Carry it in your shirt pocket or purse to use anywhere: shopping, school or work. Includes percentage and square root keys. At this low price, keep one in the car glove box for calculating running expenses on holidays or FBT. Cat V-3060

Shipping weight: 36g
Shipping size: 100 x 60 x 15mm
$4.95

Solar Power $$$ Saver!

EL-356. Operates from any light source — you can forget about buying expensive batteries forever! Performs all standard calculations for business, budgeting and school — PLUS % and square root keys, memory. Convenient pocket size with protective vinyl case. Cat V-3870

Shipping weight: 103.6g
Shipping size: 130 x 80 x 20mm
$21

Portable Calculator/Printer

EL-8181. The convenience of hard copies associated with bulky desktop calculators is available in Sharp's portable calculator. **• Memory • Selectable print/non print mode • Paper advance key.** Cat V-3800

Shipping weight: 258g
Shipping size: 190 x 80 x 30mm
$49

56 Function Scientific

EL-506P. When work requires complex number calculations, you can count on Sharp! 56 Programmed functions: Trigometric and inverse trig, logarithms, hyperbolic and inverse hyperbolic, random number generation and more. Performs binary, octal and hexadecimal calculations. Angle/time and co-ordinate conversions. Plus statistical calculations. Cat V-3805

Shipping weight: 197g
Shipping size: 140 x 80 x 40mm
$45

When size counts...

A 'credit card' size solar calculator that's perfect for working out those restaurant bills. Just the size of your Bankcard or American Express card so it can fit in your wallet — but this can save your money! Includes memory, % and square root keys for general purpose calculations at home, office or school. Cat V-3055

Shipping weight: 23.6g
Shipping size: 100 x 80 x 50mm
$9.95

Solar Metric Converter

EL-344. At the touch of a button convert Imperial to metric and vice versa: inches to centimeters, feet to metres, pounds to kilograms... all the everyday that used to be a headache. Performs standard calculations for home, work or school. Solar powered for economy and includes a carry wallet. Cat V-3845

Shipping weight: 114g
Shipping size: 120 x 80 x 20mm
$32

Pocket Power Calculator

EL-231. Add up the value with this handy number cruncher. 8 Digit display and memory for business, performs all the standard calculations PLUS % and square root keys for school work... all in a convenient pocket size that makes adding up the shopping list a breeze. Slanted back for easier desk top use. Cat V-3850

Shipping weight: 910g
Shipping size: 250 x 240 x 75mm
$9.95

Power-house Desktop Printer

EL-1615. All the professional features that add up to quick, efficient calculations: **• Lengthy 10 digit display • Over-sized keys for reduced errors • Error display • Memory • Floating decimal up to 9 places • Performs constant multiplication and division, reciprocals, chain and much more • Built-in printer, using standard size paper rolls, for hard copies.** Cat V-3835

$115

Paper rolls

To suit our range of calculator/printers. **Standard size paper rolls:** 57mm diameter. Cat V-3017

Shipping weight: 96g
Shipping size: 60 x 60
$1

Thermal paper rolls: 48mm diameter. Cat V-3019

Shipping weight: 96g
Shipping size: 60 x 50
$3.95

Desk Top Portable

Slim line desktop that's compact enough to fit neatly in a briefcase for business trips or on-site calculations. Angled 10 digit LCD display for easy viewing and over-sized keys for reduced entry errors. Features Gross Profit Margin key, memory, floating decimals and battery saving auto power-off. Cat V-3034

Shipping weight: 179g
Shipping size: 170 x 120 x 30mm
$19.95

There's a DSE store near you — wherever you are

SHARP

Pocket Computers: tailored for every need

Sharp's pocket computer is the answer to your problems!

$305

The answer to on-site business or technical problems is at hand with Sharp's remarkable PC-1360 Pocket Computer. Enter questions and the built-in BASIC language gives you the answer... run specialised software and store data with an optional Printer/Cassette interface. The 8K memory easily expands — up to 64K — with RAM cards. And this versatile super mini computer doubles as a standard or scientific calculator: performs trig and inverse trig, angle conversion and much more. Sharp's Pocket Computer — simply the best answer to any problem. Cat X-5115

- **24 digit, 4 line LCD screen or 150 x 32 dot graphics.**
- **62 key keyboard: alpha-numeric, numeric and user defined keys.**
- **136KB ROM**
- **8-Bit CMOS processor**
- **Measures 182 x 72 x 16mm. Weighs approximately 220g (with cells and a RAM card).**

Shipping size: 215 x 150 x 42mm
Shipping weight: 250g

$209

Scientific Pocket Computer/calculator

Sharp PC-1401. Designed specifically for engineering and scientific applications: professional or student work. The 4.2K RAM computer, with its own built-in BASIC language, also doubles as a scientific calculator: performs trig, logarithms, angle conversion and hyperbolic functions. Cat X-5125

- **16 Character LCD screen with 5x7 dot graphics.**
- **8 Bit CMOS processor.**
- **40K ROM**
- **76 Key keyboard: alpha-numeric, numeric pad, user defined keys.**

Shipping size: 488g
Shipping weight: 210 x 150 x 30mm

RAM PACK

16K RAM to suit above Cat X-5118 **$219**

Printer/cassette interface

Expands your Sharp Pocket Computer into a full blown portable system. Print out hard copies of data on thermal paper. And interface with a cassette data recorder to run software and store data. Includes paper advance key, thermal paper rolls, cables, 4 AA batteries and carry case. Cat X-5119

Shipping weight: 660g
Shipping size: 237 x 210 x 50mm **$173**

The budget pocket computer

Sharp PC-1246. An excellent investment for work or studies that won't break the bank! Cat X-5120

- **2K memory**
- **Built-in BASIC language**
- **53 Key keyboard with alpha-numeric, numeric pad and user definable keys**
- **Performs trig, logarithms, exponential functions and more.**

$99 **Shipping weight: 420g**
Shipping size: 215 x 150 x 28mm

Paper rolls to suit printer/cassette interface

Great value! 18mm (dia) thermal paper rolls at just over $1 each. Pack of 5 rolls so you'll always have paper on hand. Cat X-5121

$5.30 **Shipping size: 61g**
Shipping weight: 90 x 60 x 20mm

Pocket computer/information centre

Sharp PC-1100. Combines an advanced BASIC language calculator with a handy information centre:

- **Name/address and phone numbers**
- **Appointment schedule**
- **Memo function. Search key finds information quickly in each mode.**
- **16 Character x 2 line LCD screen (with brightness control)**
- **2K memory.**

Cat X-5130

$179 **Shipping weight: 350g**
Shipping size: 150 x 220 x 30mm

Tax exemption available to bona fide students on presentation of a properly authorised exemption certificate.

72 Function Scientific

EL-509S. Gives professional research or studies a real 'plus'. Performs a range of calculations: coordinate conversions, trig and inverse trig, logarithms, algebra and singular/variable statistics. Complete with instructions and carry wallet.

Cat V-3890

$39

Shipping size: 220g
Shipping weight: 140 x 80 x 30mm

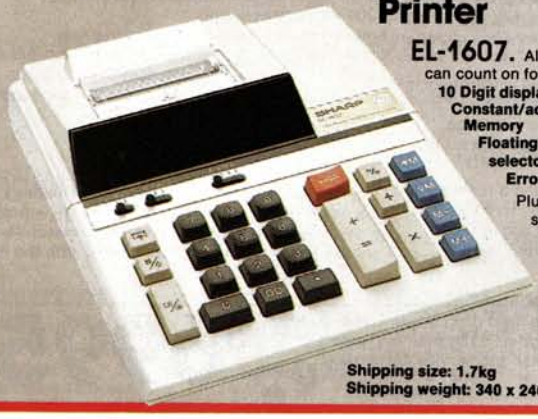
10 Digit Desktop Calculator/Printer

EL-1607. All the professional features you can count on for complex business calculations.

- **10 Digit display**
- **Constant/add mode selector**
- **Memory**
- **Floating decimal and decimal place selector for auto rounding off**
- **Error indicator.**

Plus with the built-in printer, using standard paper rolls, supplies hard copies of all calculations.

Cat V-3885



$140

Shipping size: 1.7kg
Shipping weight: 340 x 240 x 20mm

Computers

DSE Multitech

For business or professional use, you need an MS-DOS computer. But why pay $$$$ more than you need to — and do no better?

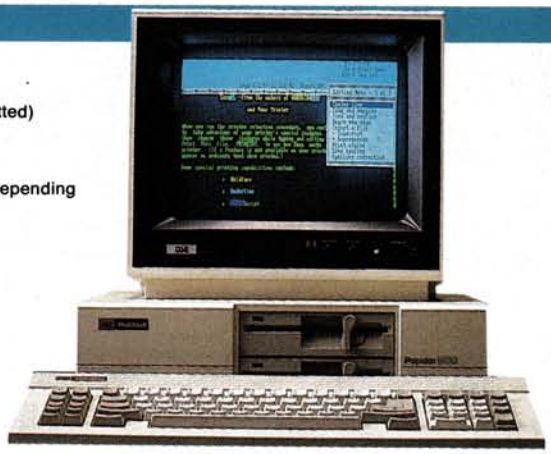
The DSE Multitech range offers the best value-for-money possible, with the very best in performance and equally outstanding back-up.

PC500

The low-cost, high performance computer that's perfect for the "first timer" — including the small business or even the hobbyist.

If you want to get into the world's largest range of software, the DSE Multitech PC500 is ready. It offers outstanding compatibility (by industry standards, it wins hands down) but has a fully licenced BIOS (don't be fooled by cheap imitations which may be illegal).

Specifications:
- IBM PC standard 4.77MHz clock speed
- On-board memory 512K maximum (256K fitted)
- 8088 CPU chip
- CGA card, parallel and serial ports fitted
- 67W power supply
- Supplied with MS-DOS 2.11 plus software depending on model.



SYSTEM 1 : Single 360K disk drive, 256K memory. **$995**
Cat X-8000

SYSTEM 2 : Dual 360K disk drive, 256K memory. Six-months on-site service contract (mainland capital cities) **$1695**
Cat X-8001

SOFTWARE BONUS OFFER with System 2. We include the new integrated program, "First Choice", which contains most of your business needs: • word processing • spreadsheet • database • communications. Value $420

PC700

The fast alternative! As well as 4.77MHz clock speed, the PC700 has a keyboard selectable 8MHz speed too — for processing at nearly twice the speed! That's handy for involved or long data runs — great for spreadsheets!

The PC700 also features 6 expansion slots to allow for virtually anything else you want to use the computer for: and its 105W power supply means it can handle it: hard disks, specific function boards, you name it!

This means the PC700 is perfect for the expanding business: it can grow just as much as you grow. And the PC700 will certainly help you grow!

Specifications:
- Switchable 4.77MHz and 8MHz clock speeds
- On board memory 640K (fitted)
- 8088-2 CPU chip
- MGA card, parallel and serial ports fitted
- 105W power supply
- mono monitor included in system price
- Includes installation and six-months on-site service contract (mainland capital cities)
- Supplied with MS-DOS 3.2 plus software depending on model

SYSTEM 1 : Dual 360K disk drives, 640K memory, mono monitor and service agreement. **$2995**
Cat X-8103

SOFTWARE BONUS OFFER: At no extra charge, the PC700 System 1 includes the "First Choice" Integrated Software package. — value $420

SYSTEM 2 : 20Mb hard disk, single 360K floppy, 640K memory, mono monitor & service agreement. **$4595**
Cat X-8107

SOFTWARE BONUS OFFER: The PC700 System 2 includes Microsoft Windows program and genuine Microsoft Mouse — valued at over $500.

PC900

"When you're through playing games..." The mighty Multitech PC900 is ready. Featuring the latest in design and performance, the blindingly fast speed of the PC900 is just the start.

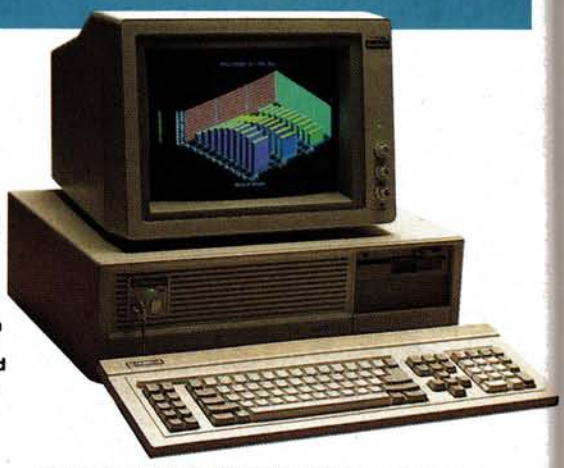
With a selectable operating speed of 6 or 10MHz, the PC900 is actually twice as fast as the "AT" — a standard by which other computers have (until now!) been judged.

It is an exceptional machine in all respects: a machine that allows the user to find solutions considered beyond the limit of PC performance. Compatible with **both** "AT" and "PC" software, the PC900 also gives you the ultimate in versatility.

With 5 free expansion slots and a massive 200 watt power supply, the PC900 is ready for as much expansion as you want. And as a file server for a computer network, you won't do better than the PC900.

Specifications:
- Switchable 6 and 10MHz clock speeds
- On-board memory 1Mb maximum (512K fitted)
- 80286 CPU chip
- MGA card, parallel and serial cards fitted
- 200 watt power supply
- mono monitor included in system price
- Includes installation and six months on-site service contract (mainland capital cities)
- Supplied with MS-DOS 3.2 plus software depending on model

SOFTWARE BONUS OFFER
The PC900 System includes the world-famous "Open Access II" Integrated Software package — probably everything most businesses will ever need! It's valued at over $1000 — and it's yours FREE with the PC900.



PC900 SYSTEM : 20Mb hard disk, single 1.2Mb floppy disk drive, 512K memory, mono monitor and service agreement. **$6995**
Cat X-8115

Other system configurations: The computer systems on these pages are "standard" configurations. However, if you have a particular configuration in mind (and it's possible!) we'll do our best to make it up for you!

DSE Multitech Peripherals

Computers

Monitors

Multitech monitors are made specifically for the Multitech Computer range, matching the colour and styling. They can, however, be used with virtually any computer having standard TTL (mono) or RGB (colour) output levels.
Each Multitech Monitor is supplied with a mains power lead (fixed IEC in case of mono) and signal input leads terminated in standard 9-pin "D" connnectors.

30cm Green Screen

Industry standard green phosphor mono monitor. TTL input levels. Cat X-8130 **$299**

35cm Black & White

Extremely high quality, slightly off-white phosphor which is really easy on the eyes. Probably the best choice for word processing, desk-top publishing and other text-oriented applications. Also displays graphics extremely well. Cat X-8132 **$399**

30cm RGB Colour

Budget RGB (red-green-blue) monitor, ideal for home use or low-end colour applications. Standard RGB input. Cat X-8133 **$949**

35cm Hi-Res RGB Colour

For ultimate quality in colour reproduction, highly legible in text modes, graphics (perfect for CAD applications) and long-term viewing without eye fatigue. Suits "EGA" boards. Cat X-8134 **$1299**

Disk Drives

Hard Drive Card

20 megabytes of hard card that installs so simply: just undo the top of the computer, drop the hard drive into a vacant slot, and plug in the power cable! And the controller will handle another hard drive if you want... Cat X-5222

$1495

Other Hard Disk Drives:

All hard disks are intended for internal mounting using a vacant space. or for replacing existing hard/floppy drives.

10 megabyte half height (suits PC500)	Cat X-8005	**$1349**
20 megabyte half height (suits PC500)	Cat X-8006	**$1495**
33 megabyte full height (suits PC900)	Cat X-8122	**$1895**
70 megabyte full height (suits PC900)	Cat X-8118	**$4995**
110 megabyte full height (suits PC900)	Cat X-8119	**$8995**

Streaming Tape Backup

(suits PC900)Half height tape backup can be mounted internally in the Multitech. Gives 60Mb per tape. Cat X-8121

$2695

Floppy Disk Drives

Want to add another drive? Choose from these models:

360Kb half height (suits PC500, 700 & 900)	Cat X-8012	**$295**
1.2Mb half height (suits PC900)	Cat X-8144	**$499**

Add-on Boards

Graphics Card

Industry-standard graphics adaptor cards for the type of graphics to suit your application/software. Most computer systems **include** one or other of these boards. If your application requires a different type of graphics card, or if you want to upgrade, the card supplied with your Multitech can be substituted for another type (with price adjustment if necessary).

These cards simply plug in to a vacant slot. All include the appropriate connection socket.

CGA Card

(Colour Graphics Adaptor) Essential for many of the games programs you'll play. (You're not going to use your computer for games? Who's kidding whom!!!) Cat X-8140 **$249**

MGA Card

(Mono Graphics Adaptor) Hercules-compatible card for software requiring MGA standard. Also includes a second parallel printer port. Cat X-8141 **$299**

EGA Card

(Enhanced Graphics Adaptor) Switch selectable to simulate MGA, CGA or EGA format. The most versatile "all rounder" board you can get — and essential for much of today's highly graphics oriented software (eg desktop publishing). Cat X-8142 **$749**

Serial/Parallel Card

Normally included in computer price. However, second card can be added to give additional parallel printer port (allows you to run two printers off — eg daisywheel and dot matrix or laser). Both ports are included on the one card — saves one expansion slot. Cat X-8143 **$249**

Monitor Bases & Arms

Monitor a real pain in the neck? Could be the way it's angled! Put it on one of these bases and you'll find you're looking at a whole new picture. Choose the one that best suits your position.

Budget Swivel Base

Nylon slide assembly and non-skid feet for positive action. Allows full 360° rotation and 25° vertical adjustment. Suits all monitors (or even your home telly!) from 22cm to 35cm screen size. Cat X-1190 **$24.95**
Shipping size: 1.3kg
Shipping weight: 290 x 280 x 80mm

Deluxe Swivel Base

Similar to above, offering same degree of rotation and angle, but this one has knurled knob on front for locking or freeing monitor. If you want to turn the monitor frequently (eg for others to see screen) this is the one to choose, as the monitor does not have to removed to adjust angle. Cat X-1191 **$39.50**
Shipping size: 1.5kg
Shipping weight: 290 x 290 x 90mm

Look Mum: No Hands!

Gas-Lift Monitor Arm

Ergonomically designed gas-lift arm allows you to place monitor **exactly** where you want it — with no effort. Even push it up and out of the way . . . anywhere. And more than that, the monitor connection cables are hidden away neatly inside the arm. One of the best designed arms we've seen (apart from Racquel, Bo, . . .) Cat X-1192 **$345**
Shipping size: 8.6kg
Shipping weight: 770 x 400 x 180mm

VZ-300 Colour Computer

Your first computer? You can't go past the VZ-300. A full colour, full function personal computer for under $100! The VZ-300 is one of Australia's most popular home computers. Compare the features... compare the power... compare the software. Everything the first-time computer user needs — or will need — is right there. And the world's most-used computer language — Microsoft BASIC — is built into the VZ-300. If you (or the kids!) want to get into the exciting world of personal computers, there's no better way to do it than with a VZ-300. Cat X-7300 **$99**
Shipping weight: 2.4kg
Shipping size: 180 x 230 x 120mm

Brief Specifications:

Memory:	**18K (RAM) expandable to 34K**
Keyboard:	**45 keys with full key travel, auto repeat key**
Screen:	**Text — 32 colours x 16 lines** **Graphics — 128 x 64 dots (8 cols) 64 x 32 dots (9 cols)** **Mix text & graphics — 32 columns x 16 rows/64 x 32 dots (9 cols) Selectable colours.**
Interface:	**600 baud cassette interface included (For best results use VZ Datasette — X-7311)**
Output:	**RF output for standard TV and video output for colour monitor both included**
Power:	**10VDC @ 1A (240V mains adaptor included)**
Software:	**Over 50 titles available in educational, games and utilities.**

Memory Expansion

Plug-in 16K module takes your VZ-300's memory from standard 18K to a maximum 34K. Nothing to wire — it just slots straight into the VZ's expansion slot. Cat X-7306 **$79.95**

Joysticks

For real game action you need a joystick! Pair of comfortable, lightweight joysticks include interface. Cat X-7315 **$54.95**

Printer Interface

Suits all standard (Centronics type) printers dot matrix, daisywheel, etc. Plugs into VZ-300. Cat X-7320 **$29.95**
Shipping weight: 197g
Shipping size: 180 x 120 x 60mm

VZ Data Cassette

The low-cost way to save and load software, data, etc. New model data cassette made just to suit VZ-300. Cat X-7311 **$64.95**

Disk Drive

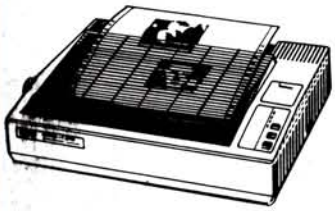
Store your programs and data on disk. Suits standard 5¼" disks. Saves hours of waiting for cassettes! Includes power supply. Cat X-7302 **$299**
Shipping weight: 2.33kg
Shipping size: 350 x 330 x 100mm

Disk Controller

Allows your VZ-300 to "talk" to the disk drive. Simply plugs into the rear of the VZ-300. **$99**
Shipping weight: 414g
Shipping size: 230 x 150 x 80mm

Computers

PRINTERS



135cps Dot Matrix

Most computer print jobs don't need letter quality. But most print jobs want speed. This one has the best of both worlds: a fast (135 characters per second) mode PLUS a near letter quality (NLQ) model at 40 cps. It handles alpha-numeric (9x9 dot matrix), semi-graphic (6x12) and bit image (8 dots vertical, up to 1920 dots serial/line) with up to 3 thicknesses of paper — in fanfold, roll or single sheet. Fitted with standard Centronics-type interface. Up to 132 columns in condensed mode, 101 to 254mm wide paper capacity. Cat X-3225

Shipping weight: Approx. 5.5kg
Carton size: 500 x 440 x 180mm

$599

Daisywheel DWP-2500

Here's a top quality printer for your wordprocessing at a budget price. Prints at 20 CPS and gives three pitches (10/12/15CPI) and proportional spacing. Takes standard 96 character printwheel and ribbon cartridge. With 11" carriage, 2KB buffer memory and Centronics interface. And it's quiet too: less than 58dB! It's all yours at this fantastic low price! Cat X-3287

Shipping size: 700 x 400 x 300mm
Shipping weight: 9.3kg

$799

Printer Ribbons & Pens

Note: Most of these printers are no longer available and ribbons may become difficult to obtain. We suggest you keep several ribbons on hand as spares — just in case.

Ribbon/Pen to suit Printer (Printer Cat No.)	Ribbon Cat No	Price
Data products 8012 (X-3200)	X-3201	$34.50
Data products 8022 (X-3205)	X-3206	$39.95
DSE130, DSE135, BX80 & CPA-80 (X-3230, 3225, 3268, 3281)	X-3231	$22.95
GP-100, GP-250 (X-3250)	X-3251	$22.50
GP-80 (X-3252)	X-3253	$21.95
C Itoh 8300P (X-3255)	X-3258	$ 9.50
C Itoh 8510 (X-3260)	X-3261	$18.50
Datamate DWP2500, C Itoh F1500P (X-3265, 3287)	X-3266	$12.95
Uchida DWX-305 (X-3270)	X-3271	$18.50
BX-100 (X-3278)	X-3279	$18.50
Star DP-515 (X-3285)	X-3286	$ 7.95
Fordigraph Executive 77 (X-3290)	X-3291	$17.50
Correction tape for Executive 77 (X-3290)	X-3292	$16.50
Pen Set (Colour) for DSE Plotter (X-3245, 7208)	X-3247	$12.50
Pen Set (Black) for DSE Plotter (X-3245, 7208)	X-3248	$11.95

MONITORS

General Purpose Video Monitors

For all computers with standard "composite video" output (for example, Multitechs and other computers with CGA card fitted, VZ-300, System 80/TRS80, Apple II series, etc), we have the choice of green or amber screen monitors.

Green Screen Monitor

The "most used" shade of mono monitor. Wide video bandwidth means high resolution, and the darkened, non-glare screen provides a sharper contrast and clearer picture: less eye strain, less fatigue. Cat X-1223

30cm screen size, monitor size 330 (w) x 276 (h) x 370 (d) mm.
Shipping weight: 8.8kg.

$249

Amber Screen Monitor

Many people prefer the softer shade of amber. It's up to you! Also has a 30cm screen size, with a similar darkened non-glare screen. Cat X-1224

Monitor size: 330 (w) x 275 (h) x 265 (d) mm
Shipping weight: 8.8kg

$249

Multitech Monitors

The fine range of Multitech Video Monitors appears on page 113, including the superb TTL Black, TTL Green, RGB and hi-res RGB. These monitors will also operate with many other computers having standard TTL or RGB outputs.

Computer Printer Paper

Standard Fan-fold Computer Paper

"Sub A4" size — actual page size 210mm wide, 279mm deep 2500 sheets in carton.
Carton size: 390 x 210 x 330mm
Shipping weight: 10.47kg
$52.25 Cat X-1189

"Report" size — actual paper size 381mm wide, 279mm deep 2500 sheets in carton.
Carton size: 400 x 300 x 240mm
Shipping weight: 16.3kg
$71.45 Cat X-1188

"Narrow" size to suit Seikosha GP80 and similar printers. Actual paper size 203 x 215mm 2000 sheets in carton. Cat X-3254

Shipping weight: 5.75kg
Shipping size: 230 x 240 x 20mm

$59.95

MODEMS

Dataphone 1200 Modem

Dataphone enables you to enjoy all the benefits and advantages of data transference without the high cost. Now information transmission and reception is as easy as using the telephone. Simply connect Dataphone to your computer's RS-232C serial interface and existing phone line to upload or download programs. Dataphone features push-button phone, 12 memories, last number redial and much more! And it conforms to CCITT recommendations V21 and V23, Bell 103 and 202. Comes complete with RS-232 serial interface for computer connection, 240V supply cable, phone and phone plug. Telecom Authorisation No. C85/37/1353.

- **300/600/1200 full or half duplex modes**
- **Push-button, 12 memory phone**
- **Auto answer/answer/originate**

Cat X-3300
Shipping weight: 1.72kg
Shipping size: 300 x 220 x 100mm

$349

Dataphone 300 Modem

The economy modem that will keep you in touch! Dataphone 300 is a 300 Baud, full duplex modem that comes complete with push-button phone for greater convenience. And it's tiny — at 135 x 95 x 47mm, the only thing smaller is the price! It simply plugs into any standard Telecom socket — so there's no delays or costly installation fees. Cat X-3301

- **Includes push-button phone**
- **300 Baud full duplex**
- **Answer/originate switch**
- **Telecom approved**

Shipping weight: 907g
Size: 230 x 230 x 230mm

$199

Dataphone 1200/Smart

State-of-the-art modem that makes data transfer quicker and easier than ever before! The Dataphone 1200/Smart is a Hayes-compatible type offering auto selectable 1200/300 baud transmission* plus auto answer and dial. External type, comes with all the necessary plugs and leads for immediate connection and use. Cat X-3302

- **300/1200 baud auto selection**

*300/300 and 1200/75 baud standard. 1200/1200 optional plug-in pcb.

- **Auto answer/dial**
- **Hayes Compatible**
- **Telecom approved.**

$499

DISKETTES

Famous Xidex Diskettes

One of the world's leading disk manufacturers! If you want the best, you want Xidex. All soft sectored type. 5¼" (13cm) format

Single sided, double density (40 track): One disk Cat X-3510 — **$4.50**

Single sided, double density (40 track): Box 10 disks Cat X-3512 — **$44.95**

Double sided, double density (40 track): Box 10 disks Cat X-3514 — **$49.95**

For "AT" machines with high (1.2Mb) capacity drives: Double sided, high energy (80 track): Box 10 disks Cat X-3516 — **$99**

For laptops and other machines using 3½" (9cm) format disks: Double sided, double density: Box 10 disks Cat X-3503 — **$85**

Budget DSE Diskettes

Why pay more? Top quality computer media at a realistic price, made exclusively for Dick Smith Electronics by one of the world's leading disk manufacturers. They're so good we use them ourselves! Double sided disks, soft sectored, in 5¼" (13cm) standard size.

Single density: Box 10 Disks — **$27.50** Cat X-3500

Double sided: Box 10 Disks — **$29.50** Cat X-3501

Protect those disks!

Your disks need help . . . and protection. Look after your data and software properly by storing your disks away in a disk box. Everything from 30 to 100 disks can be stored with this range.

5¼" (13cm) format (All dimensions w x h x d)

30 disk hinged box, with 3 fixed dividers and 5 movable labels/dividers. **170 x 140 x 110mm** Cat X-3528 — **$15.95**

50 disk hinged box, lockable, with 5 movable dividers. **180 x 160 x 250mm** Cat X-3531 — **$26.50**

100 disk hinged box, lockable, with 9 movable dividers. **180 x 160 x 380mm** Cat X-3534 — **$37.50**

3½" (9cm) format

40 disk hinged box, lockable, with 4 movable dividers. **125 x 130 x 250mm** Cat X-3533 — **$28.95**

Cleaners

Economy Head Cleaner

5¼in disk & cleaning fluid. Usable up to 15 times.

Cat X-3519

$9.95

Re-loadable Drive Cleaners

"Floppiclene" disk drive maintenance with plastic "disk" which holds cleaning pad. Includes premium grade cleaning fluid and over 20 disk cleaning refills. Both sizes available:

5¼in format: Cat X-3553 **3½in format:** Cat X-3554

$51.50 **$47.50**

Shipping weight: 380g
Shipping size: 315 x 235 x 40mm

Lint-Free Wipes

Generous 305 x 380mm wipes for screens, keyboards, etc plus other items around home/office. 10 wipes in pack. Cat X-3563

Shipping weight: 84g
Shipping size: 90 x 80 x 140mm

$5.50

Cleaning Fluid

Cleans and deodourises. Intended for use with above wipes, but also suits other wiping materials. Cat X-3562

$3.95

Mains Filter

Spikes, spruigles and splats can play havoc with your computer. And a lot can come in via the mains wiring. Filter them out with this mains filter: rated at 2A (480W) suit it's ideal for most computers, printers, etc. Cat M-9850

Shipping weight: 1.3kg
Carton size: 215 x 110 x 85mm

$139

RS232 Breakout Box

Ideal for modems, other serial applications where connections need changing. DB25 male to DB25 female, pin 1 permanently wired, all others open with wire links supplied. Cat X-3568

Shipping weight: 57g
Unit size: 55 x 55 x 17mm

$27.50

Permanent RS232 Jumper Box

Similar to above, but connections made internally and soldered for permanent applications. All 25 pins open. Wire links supplied ready for soldering. Cat X-3569

Shipping weight: 50g
Unit size: 55 x 55 x 15mm

$17.50

Female/Female Gender Bender

Adapts male serial cables without re-soldering or re-connecting. Simply plug in — twin female DB25 sockets with all 25 pins wired pin to pin. Cat X-3566

Shipping weight: 70g
Unit size: 65 x 55 x 15mm

$15.95

Male/Male Gender Bender

As above, but twin male plugs permanently wired. Cat X-3565

Shipping weight: 70g
Unit size: 65 x 55 x 15mm

$15.95

Computer Data Cassettes

Verified C-10 (10 minute) cassettes made specifically for computer data applications. Standard compact cassette format, with case. 15m tape length. Cat X-3502

Shipping weight: 59g
Unit size: 110 x 70 x 17mm

$3.49

Speedking Joystick

Konix Speedking for furious action games! 8-way switched joystick suits Atari, Commodore, BBC, Amstrad and similar "games" computers. Cat X-3567

Shipping size: 220g
Carton size: 110 x 150 x 77mm

$39.95

It talks!

Votalker Speech Synthesiser

Give your computer a real voice: the Votalker board slots into any PC/compatible and converts written English into speech with remarkable clarity. Operates from DOS level or from word processor, etc. Highly recommended for sight impaired, etc. Excellent software support package.

Self contained board includes amplifier and speaker. Cat X-3572

Shipping weight: 960g
Shipping size: 245 x 240 x 60mm

$749

Disk Doubler

Most single sided diskettes can be used double sided (sometimes with a few bad sectors). Apple, Commodore, Atari and similar computers require a write-enable notch on the "reverse" side — this disk doubler does it in one hit! Simple single hand operation. Cat X-3504

Shipping weight: 125g
Carton size: 77 x 40 x 80mm

$14.50

Serial Data Cable

2.35 metre serial cable with male DB25 plug one end, female DB25 socket the other. All 25 pins wired 1-1, etc. For serial printers, modems, computer/computer connection, and other data applications. Also ideal as extension lead for parallel printer cable (gives over 4m). Cat X-3564

Shipping weight: 390g
Shipping size: 30 x 140 x 20mm

$39

Parallel Printer Cable

Standard "Centronics" type printer cable with 36 pin Centronics plug (as used on 99% parallel printers) one end, 25 pin D socket the other. 1.7m long. Cat X-8614

Shipping weight: 340g
Shipping size: 280 x 200 x 30mm

$34.95

Multitech GW BASIC

Now there's no excuse: the same language they're learning at school is available for your DSE Multitech. Fully licensed Microsoft GW BASIC (comparable to GW BASIC 3.1) will enable them to continue computing at home (even if the school doesn't have computers as good as the Multitech!).

Software on disk and very comprehensive manual. Cat X-5249

Shipping weight: 70g
Shipping size: 220 x 110 x 20mm

$149

Computer Software

MS-DOS (PC Compatible)

Utilities and Business Software

Microsoft Word Vs3.0	X-5259	$960.00
Microsoft Mouse with Paintbrush	X-5269	$450.00
Turbo Reflex Analytical Database	X-5278	$199.00
Effective Business Accounting	X-5279	$595.00
Turbo Pascal	X-8745	$175.00
Turbo Tutor	X-8747	$79.95
Sidekick	X-8751	$119.00
Complete PC Tutorial	X-8752	$115.00
Xtree	X-8753	$99.00
Mace	X-8755	$195.00
Perfect Writer Vs 2.5	X-8756	$444.00
Perfect Filer Vs 2.5	X-8757	$299.00
Perfect Calc Vs 2.5	X-8758	$295.00
ProDesign II CAD Package Vs 2.5	X-8759	$643.00
Typequick Typing Tutor	X-8761	$87.00
Supercom Executive Comms Package	X-8763	$199.00
The Print Shop	X-8774	$119.00
Print Shop Graphics Library 1	X-8775	$79.00
Print Shop Graphics Library 2	X-8776	$79.00

Arcade & Adventure Games

Microsoft Flight Simulator	X-8650	$135.00
Ancient Art of War	X-8659	$99.50
Jet	X-8661	$119.00
Gato	X-8665	$74.95
The Hobbit	X-8765	$44.95
The Lord of the Rings	X-8767	$44.95
Yacht Racing Simulator	X-8775	$59.95
Where in the World is Carmen Sandiego?	X-8777	$95.00

As you would know, computers and software are continually changing. And no one user's needs are identical to another's.

While our stores stock a large range of MS-DOS and other PC compatible software (more than is shown here) it too is continually being updated.

Rather than try to sell you software because it happens to be the package we stock, our computer specialists will be happy to try to obtain for you the software that suits you best.

VZ-300

Note: All VZ-200 programs will run on the VZ-300, most VZ-300 programs will run on the VZ-200 if memory is sufficient. The memory figure shown is the minimum requirement.

Utilities and educational software

Hangman	Cassette	16K	X-7233	$9.95
Statistics 1	Cassette	8K	X-7251	$9.95
Statistics 2	Cassette	16K	X-7252	$9.95
Intro to BASIC	Cassette	16K	X-7255	$14.95
Typing Teacher	Cassette	8K	X-7258	$14.95
Mailing List	Cassette	16K	X-7259	$14.95
Music Writer	Cassette	16K	X-7276	$14.95
Disassembler	Cassette	16K	X-7278	$14.95
Word Processor	Cassette	16K	X-7281	$29.95
Editor/Assembler	Cassette	16K	X-7282	$24.95
Spellomatic 1&2	Cassette	8K	X-7285	$14.95
Spellomatic 3&4	Cassette	8K	X-7286	$9.95
Flashcard 1&2	Cassette	8K	X-7287	$9.95
Flashcard 3&4	Cassette	8K	X-7288	$9.95
Metric Spycatcher	Cassette	8K	X-7289	$14.95
Whizkid Spycatcher	Cassette	8K	X-7290	$14.95
Sprite Generator	Cassette	16K	X-7330	$24.95
Maths Armada	Cassette	16K	X-7340	$14.95
Word Matching Game	Cassette	16K	X-7345	$14.95
VZ Word Processor	Cartridge	8K	X-7350	$89.95
VZ Database	Disk	16K	X-7405	$29.95

Adventure and Arcade Games

Poker	Cassette	8K	X-7232	$9.95
VZ Invaders	Cassette	8K	X-7239	$14.95
Ghost Hunter	Cassette	8K	X-7242	$14.95
Hoppy	Cassette	16K	X-7243	$14.95
Super Snake	Cassette	16K	X-7244	$14.95
Knights & Dragons	Cassette	8K	X-7245	$14.95
Star Blaster	Cassette	16K	X-7247	$14.95
Asteroids	Cassette	16K	X-7248	$14.95
Ladder Challenge	Cassette	8K	X-7268	$14.95
VZ Panic	Cassette	8K	X-7270	$14.95
Othello	Cassette	8K	X-7271	$14.95
Dracula Castle	Cassette	16K	X-7272	$14.95
Backgammon	Cassette	8K	X-7273	$14.95
Killer Tomato	Cassette	16K	X-7274	$14.95
Chess	Cassette	8K	X-7275	$14.95
Duel	Cassette	16K	X-7279	$14.95
Formula 1	Cassette	16K	X-7331	$14.95
Galaxon	Cassette	16K	X-7332	$14.95
Dawn Patrol	Cassette	16K	X-7333	$14.95
Kamikaze	Cassette	16K	X-7334	$14.95
Missile Attack	Cassette	16K	X-7335	$14.95
Digout	Cassette	16K	X-7336	$14.95
Hamburger Sam	Cassette	16K	X-7337	$14.95
Lunar Lander	Cassette	16K	X-7338	$14.95
Space Ram	Cassette	16K	X-7339	$14.95
Penguin	Cassette	16K	X-7341	$14.95
Crash Car Race	Cassette	16K	X-7342	$14.95
Pharoah's Curse	Cassette	16K	X-7343	$19.95
Maze of Argon	Cassette	16K	X-7344	$14.95
Games Pack 1	Disk	16K	X-7400	$39.95
Games Pack 2	Disk	16K	X-7401	$39.95
Games Pack 3	Disk	16K	X-7402	$39.95
Games Pack 4	Disk	16K	X-7403	$39.95

The Cat

(This software will also run on most Apple II model computers).

Utilities and Educational Software

Sandy Word Processor (suits CAT only)	X-7605	$199.00
Print Shop	X-7710	$99.00
Print Shop Graphics 1	X-7726	$49.00
Print Shop Graphics 2	X-7727	$49.00
Maths Decimals Add/Sub	X-7335	$39.95
Maths Decimals Mult/Div	X-7336	$39.95
Maths Fractions Add/Sub	X-7337	$39.95
Maths Fractions Mult/Div	X-7338	$39.95
Maths Multiplic & Division	X-7339	$39.95
Maths Addition & Subtraction	X-7340	$39.95

Adventure and Arcade Games

Dam Busters	X-7664	$49.95
Zorro	X-7665	$49.95
Bruce Lee	X-7666	$49.95
Goonies	X-7667	$49.95
Boulder Dash	X-7668	$49.95
Chess	X-7669	$49.95
Captain Goodnight	X-7717	$69.00
Karateka	X-7725	$49.00
Europe Ablaze	X-7728	$59.95
Battlefront	X-7731	$44.95
Jumpman	X-7732	$29.95
Impossible Mission	X-7733	$49.95
One on One	X-7334	$69.95

Books

Learn to use your computer more effectively with DSE's complete range of books. From hardware, software to peripherals understanding — it's all at your nearest DSE store!

VZ-300 technical manual

70 pages, DSE
Learn to use your VZ-300 Colour Computer to maximum effect with this handy manual containing additional information concerning programming, hardware operation and expansion. Cat X-7324

$14.95
Weight: 220g
Size: 296 x 213mm

The CAT technical reference manual

268 pages, DSE.
Want to know the inner workings of your CAT computer? Then this is the book for you! Technical data with a full set of parameters for troubleshooting and repairs. Cat X-7592

$8.75
Weight: 470g
Size: 230 x 178mm

Programming the 8086 & 8088

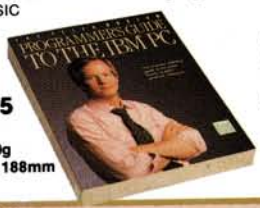
Your guide to the basic concepts of programming the powerful 8086 and 8088 16-bit microprocessor. Learn internal structures, memory organisation and complete interrupts — plus how to apply the 8088 in controlling an IBM PC. Sample programs included.
Cat X-8634

$29.95
Weight: 470g
Size: 227 x 152mm

Programmer's guide to the IBM PC

426 pages, Peter Norton.
The ultimate programmer's reference guide to the IBM PC family! Create programs, solve problems and learn the important differences between the IBM PC, XT, AT, Portable and PCjr. Includes: BIOS basics, DOS functions, linking programs and interface routines for language, Pascal, BASIC and C.
Cat X-8648

$29.95
Weight: 900g
Size: 233 x 188mm



Introduction to Turbo Pascal

270 pages, Douglas S. Stivison.
Want to learn Pascal? Here's the best reference book available — for beginners and experienced programmers alike — on elementary programs, advanced data construction, bit and byte manipulation. Plus advanced computer options, how to link files, debugging and more! Cat X-2373

$25.95
Size: 226 x 188mm
Weight: 500g

Programming the VZ-300

171 pages, Tim Hartnell.
Get into the exciting world of programming with this easy to read manual. First you'll be familiarised with the keyboard and then start learning all those programming tricks: random number generation, strings, arrays, PEEK and POKE, debugging — all you need to enjoy the wonders of programming on your VZ-300. Cat X-7325

$14.95
Weight: 240g
Size: 211 x 137mm

Taming the CAT

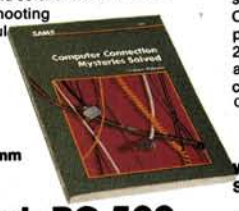
141 pages, Thomas Sheridan.
Learn how to make your CAT computer purr. Basic programming for beginners and complex material for old hacks are all contained in this handy reference book. Cat X-7591

$5.95
Weight: 230g
Size: 210 x 165mm

Computer connection mysteries solved

260 pages, Graham Wideman.
Expand your computer system without fuss. Graham Wideman offers the best peripheral connection advice this side of Silicon valley: from simple to advanced connections, RS-232C, parallel and video interfacing — and software too! There's even a troubleshooting chart and helpful hints. Excellent value. Cat X-8636

$29.95
Weight: 515g
Size: 247 x 188mm



Multitech PC-500 technical reference manual

150 pages — D.S.E.
You'll better understand the working and layout of your PC-500 computer with all the information contained in this handy reference book. Installation, keyboard mapping and all the facts about MS-DOS. Includes a quick reference guide of MS-DOS commands.
Cat X-8021

$19.95
Weight: 210g
Size: 234 x 190mm

Programming the 6502

400 pages, Rodnay Zaks.
An invaluable teaching aid for anyone owning a 6502 CPU computer like the Apple or CAT. Each chapter is designed to develop a true level of programming competence: from basic programming techniques, addressing, utilising input/output devices and data construction... It's all included! Cat X-2374

$28.50
Size: 227 x 150mm
Weight: 580g

Giant book of VZ-300 games

278 pages, Tim Hartnell.
Computers are fun! Combined with your VZ-300 Colour Computer, games can be entertaining and educational too. This superb book lists games and how to play them: from adventure, space action to old favourites like checkers.
Plus a chapter on how to create your own games.

$19.95 Cat X-7326
Weight: 460g
Size: 221 x 178mm

Software Construction Set
For the IBM PC & PC jr

338 pages, Eric Anderson.
Here it is: a package of techniques, advice and individual routines to create your own software and solve common program problems. If you are ever stuck on an information storing or retrieval question, then refer to this handy book. Plus it teaches just about all you need to know about performing data searches, sorting, building windows and much more!

$44.95 Cat X- 8642
Weight: 600g
Size: 234 x 178mm

The RS-232 solution

194 pages, Joe Campbell.
Easy to read, illustrated and loaded with helpful case studies: that's the secret to the success of this excellent book. Author Joe Campbell's knowledge of connecting printers, modems and plotters via the RS-232 port has helped a large number of computer owners.
Cat X-8637

Weight: 370g
Size: 227 x 178mm

DSE Multitech PC-700 technical reference manual

150 pages — D.S.E.
It's all here: everything you need to know about the superb PC-700! Details of the system configuration, keyboard familiarisation and key useage description plus a chapter on MS-DOS commands. If you own a PC-700, you should have this impressive manual on your book shelf.
Cat X-8101

$24.95
Weight: 430g
Size: 210 x 150mm

Turbo Pascal for basic programmers

400 pages, Paul Garrison.
Compared to BASIC, Pascal is a faster and more efficient programming language. Because BASIC is widely used, author Paul Garrison teaches Pascal by describing the BASIC equivalent and showing the differences. It's an ideal way to learn structured Pascal programs — including data base, currency conversion and many personal programs too.
Cat X-2375

$36.50
Weight: 750g
Size: 234 x 188mm

The great VZ-300 omnibus

188 pages, Tim Hartnell.
Learn how flexible your VZ-300 is with this superb book. It takes you beyond off the shelf software use by teaching you how to create an artificial intelligence program, a language translator or utilise sound and graphics capabilities. Even learn search and sorting techniques from this book. Cat X-7327

$19.95
Weight: 350g
Size: 220 x 175mm

Running MS-DOS

423 pages, Van Wolverton
The all new 2nd edition that includes all versions of MS-DOS through to 3.1! This is a 'must' for any DOS system owner. Learn about managing files and disks, tree structures, editing, smart commands and creating your own commands. A quick reference guide to DOS commands is an invaluable aid for any operator.

$33.95 Cat X-8647
Weight: 910g
Size: 234 x 187mm

Beginner's guide to Machine Language

410 pages, Chistopher D. Metcalf and Marc B. Sugiyama.
For those BASIC programmers who want to learn Machine Language, this is the book for you! It is an excellent guide to Machine language and a handy reference source too. Learn how to use Machine Language with BASIC, merge with Pascal, how to use BIOS and DOS interrupts plus much more. Cat X-8643

$29.50
Weight: 560g
Size: 228 x 160mm

DSE Multitech PC-900 technical reference manual

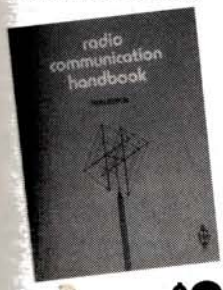
150 pages — D.S.E.
Now you can really get to know your powerful PC-900. All the details about the CPU, system bus and timing, reset logic, on-board memory and much more. The better you know your PC-900, the more it does for you!
Cat X-8113

$29.95
Weight: 240g
Size: 210 x 150mm

Radio Communications Handbook Combined

500 pages

Both Vol 1 and Vol 2 combined: highly recommended for studying for AOCP. Covers RTTY, propagation, aerials, mobile and portable equipment, noise, power supplies, interference, measurements, satellite communications, image communications,etc. A must for every serious amateur. Cat B-2033



248 x 183mm

$39.95

VHF/UHF Manual

G.R. Jessop — 500 pages

This huge hard covered manual deals with the techniques and equipment applicable to frequencies above 30MHz with particular emphasis on microwaves. Cat B-2054

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255 x 185mm

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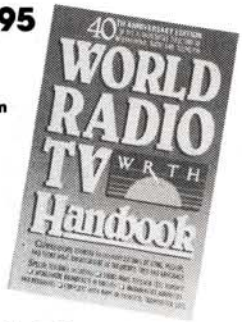
World radio TV handbook

Latest '87 edition!
A complete listing of international radio and TV stations that opens up a whole world of listening action! Provides frequencies, addresses, call signs, IDs — you name it... virtually everything except the kitchen sink. Cat B-2087

$29.95



Size:
225 x 249mm

How to tune the secret shortwave spectrum

181 pages, Harry L. Helms.
Ever wondered about unusual signals? Then this fascinating book is for you: it tours secret SWL broadcasts involving espionage, Government and military communication. You'll learn what these clandestine signals mean, identification techniques and their origins. Hear James Bond contact M, Ronald Reagan say G'Day to Nancy and more! Cat B-1649

$6.95

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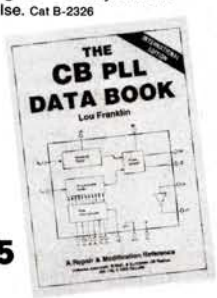
CB PLL Data Book

Lou Franklin — 110 pages

A mine of information for the avid CB'er. Contains details of the phase locked loops used in just about every CB ever made. So what? It also tells you how to modify the PLL circuitry to give more channels, to push it, to repair it, to do just about anything except talk. (They're working on that one!). And if you repair CB's, this is indespensable for the technical data it gives — data you won't find anywhere else. Cat B-2326



Shipping size:
250 x 178mm

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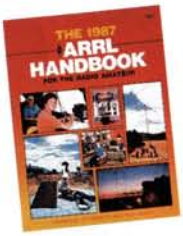
1987 ARRL handbook

You got so much from last year's ARRL handbook, why not have an even better New Year with the '87 edition? All the updates on basic and advanced information, theory and a fascinating section on satellites. Cat B-2220

$49.95

Shipping weight: 1.8kg
Shipping size: 275 x 210mm



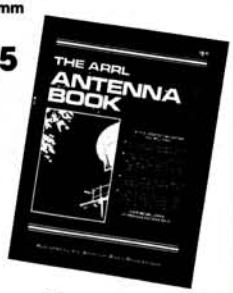
ARRL Antenna Book

Gerald L. Hall — 327 pages

The latest revision of this extremely popular ARRL handbook. Information, data and technical tips on all types of antennas, plus many antenna projects to build. A must for every shack. Cat B-2207

Size: 275 x 207mm

$29.95



Yaesu Logbook

Yaesu — 50 pages

The finishing touch to your Yaesu station and will really lift the level of the Ke****d or l**M station!). Provision for all QSO details including QSL data. Cat B-2029

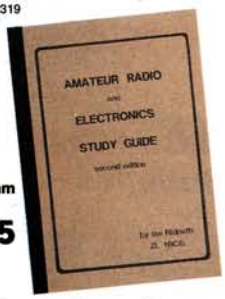
Size: 300 x 215mm

$6.95

Amateur Radio and Electronics Study Guide

Ian Ridpath — 210 pages

A clear and concise study manual for the amateur syllabus. Designed to make learning easier in a short uncluttered text with large clear illustrations in Students-Own-Note form. This invaluable publication has been tailored to fill the gap between high level amateur radio handbooks and over simplified beginners manuals. Cat B-2319



Size: 90 x 206mm

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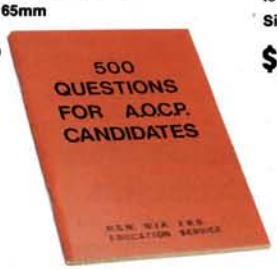
500 Questions for A.O.C.P. Candidates

Bill Dunn, Fred Santos, Keith Hargraves, Dave Wilson — 94 pages

NSW W.I.A. Y.R.S. Education Service. Written to aid candidates preparing for the multiple choice format A.O.C.P. exams. Contains 500 questions with answers and a proposed syllabus for study for the A.O.C.P. Cat B-2318

Size: 234 x 165mm

$5.95



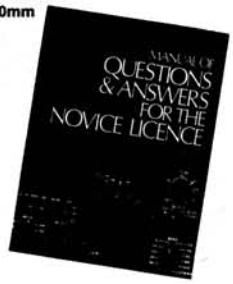
Manual of Q & A for the Novice Licence

Keith Howard — 100 pages

For the would-be novice this book asks a question, then gives the answer in simple but explicit terms, an excellent means of learning. Covers everything from the ohm to regulations. Cat B-2315

Size: 243 x 180mm

$8.50



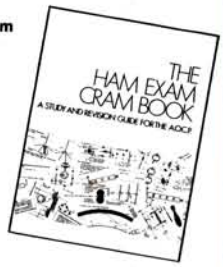
The Ham Exam Cram Book

Keith Howard — 72 pages

A study and revision guide for the A.O.C.P. This book is not intended to replace recommended text books but it will certainly sharpen your knowledge and prepare you for the theory exam without wasted effort. Contains concisely explained and clearly illustrated examples as well as many multiple choice questions with answers explained. Cat B-2314

Size: 200 x 163mm

$7.50



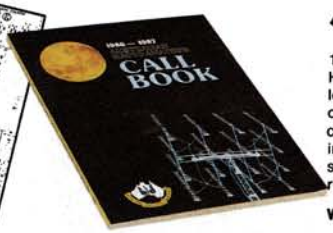
1000 Question for Novice Candidates

Ken Hargreaves, Dave Wilson, Rex Black — 116 pages

Published by the W.I.A. 4th Edition. For the aspiring amateur this book is essential. Asks the questions most likely to arise in the exams. Covers all aspects from electrical laws to regulations and test equipment, etc. Cat B-2316

Size 194 x 150mm

$8.50



1987 WIA Callbook

128 pages
Here it is: the '87 version of the amateur's 'phone book' loaded with a wealth of information. • Full State by State call sign index • DXCC countries list • International call signs • Clubs directory • Full beacon and repeater information • Time zones... plus much more. If you're serious about amateur radio, you must have this invaluable reference book. Cat B-2328

Weight: 240g Size: 270 x 212mm

$7.50

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Magazine Binder

A hard spine magazine binder with metal rods for placement and protection of those valuable mags. Vinyl covered. Holds 12 issues (one year) of any mag to a maximum size of 280mm high by 210mm. Cat B-4045

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Ideal for storing all those valuable magazines and articles for later reference. Attractively covered in durable vinyl. Files holds up to a full years supply of most magazines and comes with clear plastic side pocket for easy coding. Cat B-4047

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Jack McDonald — 170 pages

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Australian Amateur Radio Handbook

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Australian CB Radio Handbook

DSE — 144 pages

A complete guide to CB Radio including latest marine radio service details. Which system is best? What is the range of CB? What type should you buy? How to conduct yourself on air. The latest edition includes the new regulations and channel allocations. Cat B-2325

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Australian Marine Radio Handbook

Tony Clegg — 154 pages

This book will help boat owners find out just how simple choosing, fitting and using a marine radio can be. Packed with all the essential details, here is a book that will not only inform, but can lead to lives being saved as well. Cat B-9604

Size: 213 x 135mm

$6.95

Australian Semiconductor Data and Application Book

Dick Smith Electronics, 131 pages

Whether you're a professional electronics engineer, or just a weekend professional — this book should solve those information needs. For the type of components used every day, keep this on the workbench or desk and forget about searching through the library. It can save you hours in lost time and frustration. Cat B-4200

$6.95 **Size: 213 x 135mm**

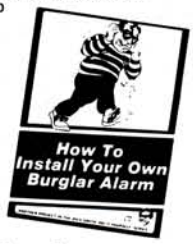
DSE's OWN "HOW TO . . ." SERIES

Everything you wanted to know about . . . . but didn't know who to ask. Bargain priced data sheets and booklets by DSE's own technical staff.

How to install your own Burglar Alarm

This booklet explains how to install a burglar alarm and protect your property whilst you still have some property to protect! Cat B-6000

$1.95



How to install your own TV/FM Aerial

Save on costly fees, understand what is going on and do-it-yourself. Cat B-6010

50¢

How to deal with CB Interference

Enjoy your CB radio but stay friendly with neighbours. Stop TVI before it starts! Cat B-6025

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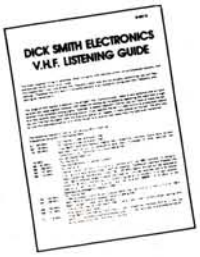

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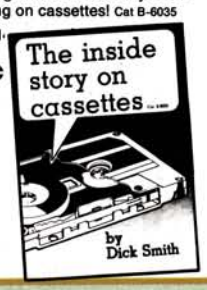

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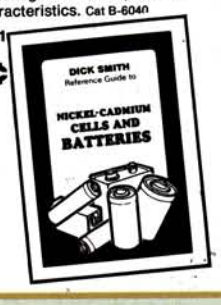

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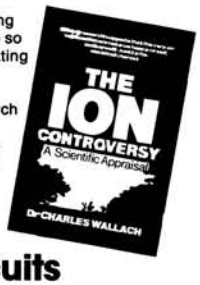

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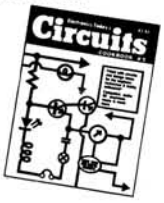

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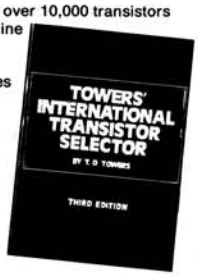

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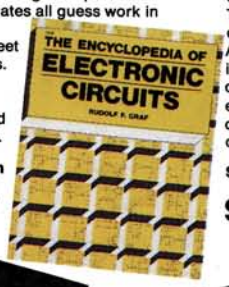

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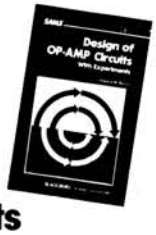

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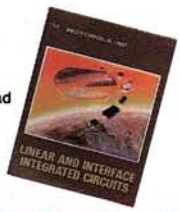

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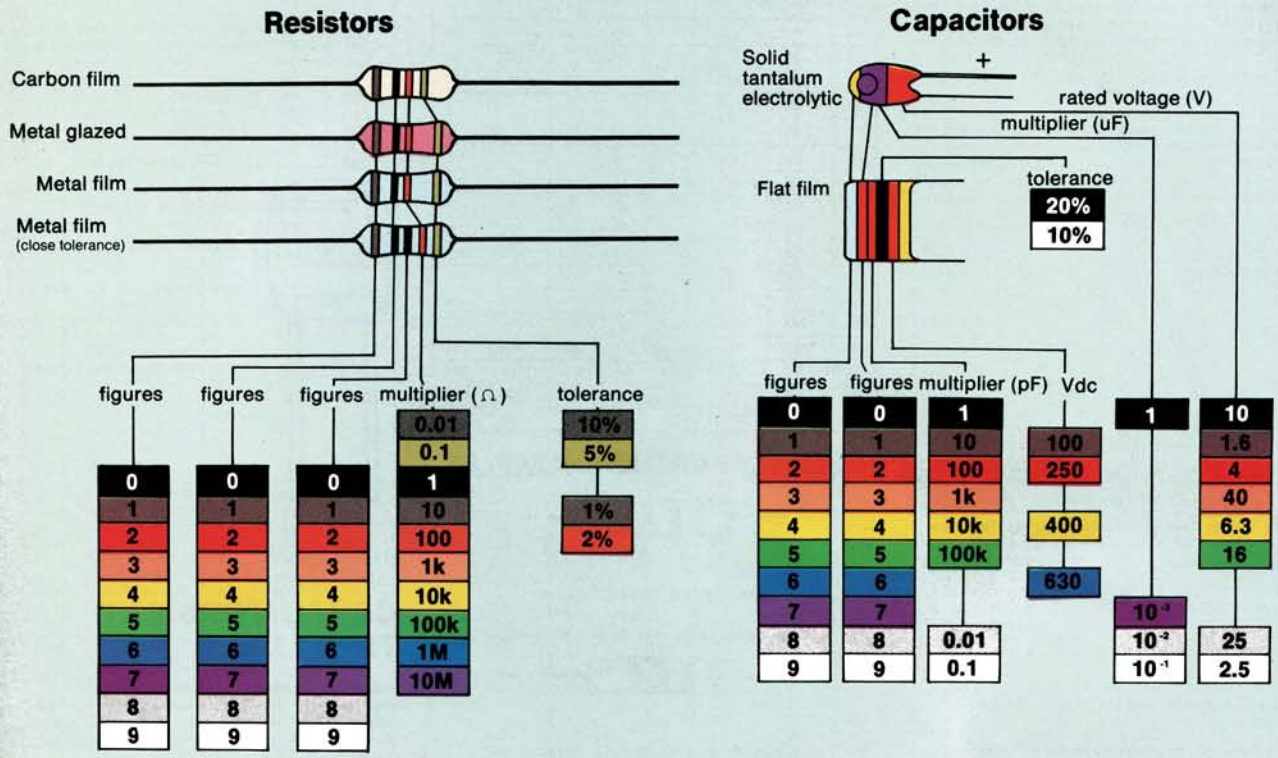


CIRCUIT LAWS

OHM'S LAW

The relationship between voltage, current and resistance in a circuit is defined by Ohm's law, which may be simply stated by the formula:

$$E = I \times R$$

where E is in volts, I is in amps and R is in ohms. This can be turned around to look like:

$$I = \frac{E}{R} \qquad R = \frac{E}{I}$$

POWER IN A CIRCUIT

When a current passes through a component, energy is given off in the form of heat. Normally, we associate resistors with this action: that's part of their job. We often need to know how much power is being given off by a resistor – and we find this out by using the formula:

$$W = E \times I$$

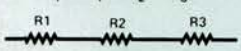
where W is in watts, E is in volts and I is in amps. This formula too can be turned around if required:

$$E = \frac{W}{I} \qquad I = \frac{W}{E}$$

RESISTORS IN SERIES

Resistors in a series circuit are simply added together to find the total resistance. In other words, a 10 ohm, 150 ohm and 1000 ohm-resistor connected in series would be the equivalent of a single 1.160 ohm resistor. The formula is:

$$R_T = R_1 + R_2 + R_3 + \ldots$$



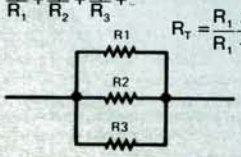
RESISTORS IN PARALLEL

Resistors in a parallel circuit are a little more difficult. The formula to use is:

$$R_T = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \ldots}$$

Two resistors in parallel

$$R_T = \frac{R_1 \times R_2}{R_1 + R_2}$$



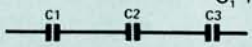
CAPACITORS IN SERIES

Capacitors in series, on the other hand, are similar to resistors in parallel. You add the reciprocals:

$$C_T = \frac{1}{\frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \ldots}$$

Two capacitors in series

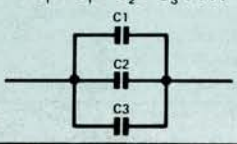
$$C_T = \frac{C_1 \times C_2}{C_1 + C_2}$$



CAPACITORS IN PARALLEL

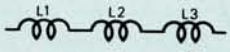
Capacitors behave exactly the opposite to resistors; when capacitors are in **parallel**, you add them;

$$C_T = C_1 + C_2 + C_3 + \ldots$$



INDUCTORS IN SERIES

$$L_T = L_1 + L_2 + L_3 + \ldots$$

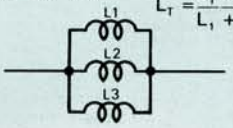


INDUCTORS IN PARALLEL

$$L_T = \frac{1}{\frac{1}{L_1} + \frac{1}{L_2} + \frac{1}{L_3} + \ldots}$$

Two inductors in parallel

$$L_T = \frac{L_1 \times L_2}{L_1 + L_2}$$



RESISTORS

Resistors are usually so small it is impractical to try and print each one with its value, so they are marked with a code printed on them in bands of different coloured paint. These bands give us the resistor's value.

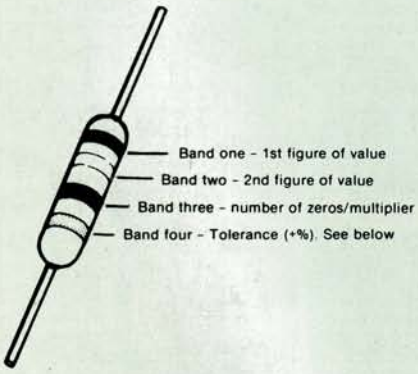
Depending on the tolerance of the resistor there will be either 4 bands (5% E24 Series) or 5 bands (1¼% E96 series).

How to read common 5% resistors (4 bands):

Start with the band closest to one end or, if it is difficult to work out, the band furthest away from the gold or silver band. Take the resistor shown below: let's say that the first band is orange - from the table this means three. If the second band is white, then its value is 9, from the table. And finally if the third band is brown we have a value of 2, so we add one zero to the first two figures: 3, 9 and 0 - or 390 ohms.

The fourth, or tolerance band, is silver: 10%. Therefore, the resistor is 390 ohms, 10% tolerance (or somewhere between 390 -10% and 390 +10%, or 351 and 429 ohms). This is more than adequate for most circuit requirements. Resistors are available which are 'spot on' in value - however, these are not required in most circuits, and are often very, very expensive.

WHAT THEY MEAN:



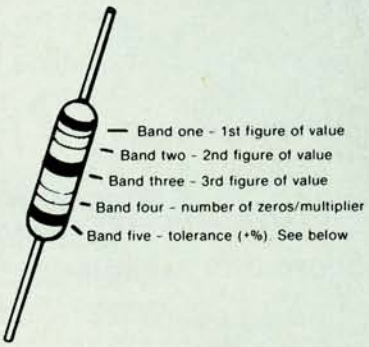
Tolerance band colours: Red 2%, Gold 5%, Silver 10%, No band 20%.

Note how the bands are closer to one end of the resistor than the other.

1% Resistors (5 bands)

These are read in a similar manner. However, the first three bands give a three figure value. The fourth band gives the number of zeros/multiplier and the fifth is the tolerance.

WHAT THEY MEAN:



Tolerance band colours: Brown 1%, Red 2%, Gold 5%, Silver 10%, No band 20%.

Some circuits show capacitor and resistor values as straight figures - e.g. 4.7 pF. Others replace the decimal point with the first letter of the sub-multiple (e.g. 4p7 is the same as 4.7pF). Similarly with resistors: 6k8 means the same as 6.8k.

PREFERRED VALUES

The system of preferred component values was developed to provide a logical progression whereby each higher value always represents an increase by the same factor or percentage, according to the percentage tolerance on which the table is based. (The mathematical term is "geometric progression".)

Values given for each series appear in every decade.

series E12 (10%)

10	12	15	18	22	27	33	39
47	56	68	82				

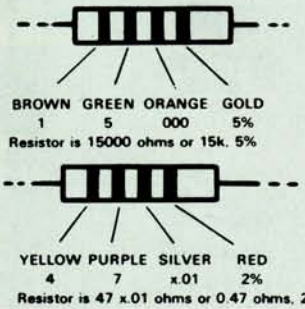
series E24 (5%)

10	11	12	13	15	16	18	20
22	24	27	30	33	36	39	43
47	51	56	62	68	75	82	91

series E96 (1¼%)

100	102	105	107	110	113	115	118
121	124	127	130	133	137	140	143
147	150	154	158	162	165	169	174
178	182	187	191	196	200	205	210
215	221	226	232	237	243	249	255
261	267	274	280	287	294	301	309
316	324	332	340	348	357	365	374
383	392	402	412	422	432	442	453
464	475	487	499	511	523	536	549
562	576	590	604	619	634	649	665
681	698	715	732	750	768	787	806
825	845	866	887	909	931	953	976

RESISTOR VALUE EXAMPLES



METRIC MULTIPLIERS

Throughout this book, and indeed, most electronic publications, metric multipliers are used to simplify and shorten component values, etc.

For example, capacitance is measured in Farads – but the Farad is a huge unit of measurement, much too large to be of any use in expressing capacitor values. So we use a suitable metric sub-multiple to save a lot of figures. Instead of saying, for example, .000000000001 Farads we say 1 pico Farad (1 pF).

We have used only micro Farads (uF) and pico Farads (pF) in this book; however, some publications use the abbreviation nano Farad (nF) so you should get to know these eventually, too.

Abbreviation	Means	Multiply unit by	Or
p	pico	.000000000001	10^{-12}
n	nano	.000000001	10^{-9}
u	micro	.000001	10^{-6}
m	milli	.001	10^{-3}
–	UNIT	1	10^{0}
k	kilo	1 000	10^{3}
M	mega	1 000 000	10^{6}

1000 pico units = 1 nano unit
1000 nano units = 1 micro unit
1000 micro units = 1 milli unit
1000 milli units = 1 unit
1000 units = 1 kilo unit
1000 kilo units = 1 mega unit

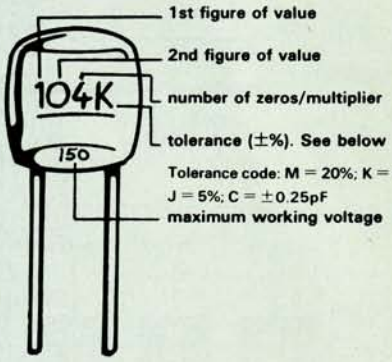
CAPACITORS

Most capacitors will have their value printed on them. However, there are a number of capacitor manufacturers who use the 'IEC' code. This code is a numerical code, but works in a similar way to the resistor colour code: two figures followed by a multiplier. There is often a single letter code showing tolerance.

The code is worked out in picofarads, so you may have to use the appropriate metric multiplier.

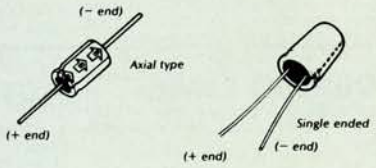
A capacitor may have a code '104K'. This decodes as follows - 0.1uF, 10%. The first two figures give us 10, the third figure gives us 0000, and the latter 10%. Therefore, the capacitor is 10 0000pF, 10%. We normally express this as 0.1uF - capacitors with a value below 001uF are expressed in picofarads.

There may be a further figure marked - this would be the voltage rating of the capacitor (the maximum voltage at which you can use that capacitor).



CAPACITORS AND THEIR USES

Aluminium Electrolytic Capacitors
Ideal for use in filtering or smoothing rectified A.C. energy storage as in Power Supplies. Also used for bypassing and coupling in audio applications and the timing element for non critical circuits.



Solid Tantalum Capacitors
Lower leakage High reliability, long life and offer a size advantage.

Ceramic Capacitors
Offer low cost and high capacitance in a small physical volume. There are generally two types:

For tight tolerance and high stability in radio frequency (RF) tuned circuits.

Bypass capacitors in RF and in digital circuits for spike suppression and power supply filtering.

Paper Capacitors
An original construction of capacitors for use in A.C. circuits. Still used for power factor correction in mains supply applications. For example in Lighting and electric motors.

Polyester Capacitors
Lowest cost, most widely used for general purpose application.

Polycarbonate Capacitors
Offer low temperature coefficient and lower dielectric losses at high frequency. Most often chosen for temperature stability characteristics.

Polystyrene Capacitors
Usually chosen for applications requiring tight tolerance coupled with high stability. Predictable temperature coefficient used in conjunction with particular ferrite coils makes highly stable tuned circuits or oscillators.

Polypropylene Capacitors
Offer very low dielectric losses rivalling polystyrene. Suitable for high power inverters and converters and T.V. deflection.

BIPOLAR TRANSISTORS

TYPE	CASE	POL MAT	Vce	Vcb	IC mA	Vces @	IC	Hfe @ IC mA		MHz Ft @	IC mA	Ptot mW	USE	COMPARABLE TYPES
AC126	TO-1	PG	12	32	100			140	2	1.7	10	500	Audio driver	2N406
AC127	TO-1	NG	16	32	500			105	50	1.5	10	340	Audio O/P	AC187
AC128	TO-1	PG	16	32	1000	0.6	1A	60-175	300	1	10	1W	Audio O/P	AC188
AC132	TO-1	PG	12	32	200	0.35	200	115	50	1.3	10	216	Audio O/P	AC188
AC187	TO-1	NG	15	25	1000	0.8	1A	100-500	300	1	10	1W	Audio O/P	AC127
AC188	TO-1	PG	15	25	1000	0.6	1A	100-500	300	1	10	220	Audio O/P	AC128
AD161	PT1	NG	20	32	3000	0.6	1A	80-320	500	0.02	300	4W	Audio Amp.	AD165, 2N1218, 2N1292
AD162	PT1	PG	20	32	3000	0.4	1A	80-320	500	0.015	300	6W	Audio Amp.	AD143, AD152, AD147
AF116	TO-7	PG	15	32	10			150	1	75	1	50	H.F. Amp.	AF135, AF136, 2N3127
ASZ15	TO-3	PG	60	100	10A	0.4	10A	20-55	1A	0.2	1A	30W	H.C. Sw.	OC28
ASZ18	TO-3	PG	32	100	10A	0.4	10A	30-110	1A	0.22	1A	30W	H.C.Sw.	O.C.36
BC107	TO-18	NS	45	50	100	0.2	10	110-450	2	300	10	300	S.S. Amp.	BC207, BC147, BC182
BC108	TO-18	NS	20	30	100	0.2	10	110-800	2	300	10	300	S.S. Amp.	BC208, BC148, BC183
BC109	TO-18	NS	20	30	100	0.2	10	200-800	2	300	10	300	Low Noise S.S. Amp.	BC209, BC149, BC184
BC109	TO-18	NS	20	30	100	0.2	10	200-800	2	300	10	300	Low Noise S.S. Amp.	BC209C, BC184C, BC149C
BC157	SOT-25	PS	45	50	100	0.25	10	75-260	2	150	10	300	S.S. Amp.	BC177, BC307, BC212
BC158	SOT-25	PS	25	30	100	0.25	10	75-500	2	150	10	300	S.S.Amp.	BC178, BC308, BC213
BC159	SOT-25	PS	20	25	100	0.25	10	125-500	2	150	10	300	S.S. Amp.	BC179, BC309, BC214
BC177	TO-18	PS	45	50	100	0.25	10	75-260	2	150	10	300	S.S. Amp.	BC157, BC307, BC212
BC178	TO-18	PS	25	30	100	0.25	10	75-500	2	150	10	300	S.S. Amp.	BC158, BC308, BC213
BC179	T0-18	PS	20	25	100	0.25	10	125-500	2	150	10	300	S.S. Amp.	BC159, BC309, BC124
BC182(L)	SOT-30 (TO-92/74)	NS	50	60	200	0.25	10	100-480	2	150	10	300	S.S. Amp.	BC107, BC207, BC147
BC183(L)	SOT-30 TO-92/74)	NS	30	45	200	0.25	10	100-850	2	150	10	300	S.S. Amp.	BC108, BC208, BC148
BC184(L)	SOT-30	NS	30	45	200	0.25	10	250-850	2	150	10	300	Low Noise High Gain	BC109, BC209, BC149
BC207	TO-106	NS	45	50	100	0.25	10	110-220	2	150	10	300	S.S. Amp.	BC107, BC182, BC147
BC208	TO-106	NS	20	25	100	0.25	10	110-800	2	150	10	200	S.S. Amp.	BC108, BC183, BC148
BC209	TO-106	NS	20	25	110	0.25	10	200-800	2	150	10	200	Low Noise High Gain	BC109, BC184, BC149
BC213(L)	SOT-30 (TO-92/74)	PS	30	45	200	25	10	80-400	2	200	10	300	S.S. Amp	BC308, BC158, BC178
BC214(L)	SOT-30 (TO-92/74)	PS	30	45	200	0.25	10	80-400	2	200	10	300	S.S. Amp	
BC327	TO-92(VAR)	PS	45	50	800	0.7	500	100-600	100	100	10	800	O/P	2N3638
BC328	TO-92(VAR)	PS	25	30	800	0.7	500	100-600	100	100	10	800	O/P	BC327,2N3643
BC337	TO-92(VAR)	NS	45	50	800	0.7	500	100-600	100	200	10	800	O/P	2N3642
BC338	TO-92(VAR)	NS	25	30	1000	0.7	500	100-600	100	200	10	800	O/P	BC337
BC546	TO-92(VAR)	NS	80	80	100	0.6	100	125-500	2	300	10	500	S.S. Amp.	
BC547	TO-92(VAR)	NS	45	50	100	0.6	100	110-800	2	300	10	500	S.S. Amp.	BC107, BC207, BC147
BC548	TO-92(VAR)	NS	30	30	100	0.6	100	110-800	2	300	10	500	S.S. Amp.	BC108, BC208, BC148
BC547	TO-92(VAR)	NS	30	30	100	0.6	100	200-800	2	300	10	500	Low Noise Small Sig.	BC109, BC209, BC149
PC549C	TO-92(VAR)	NS	30	30	100	0.6	100	420-800	2	300	10	500	Low Noise High Gain	BC109C, BC149C
BC556	TO-92(VAR)	PS	80	80	100	0.65	100	75-500	2	150	10	500	S.S. Amp.	
BC547	TO-92(VAR)	NS	45	50	100	0.6	100	110-800	2	300	10	500	S.S. Amp.	BC107, BC207, BC147
BC548	TO-92(VAR)	NS	30	30	100	0.6	100	110-800	2	300	10	500	S.S. Amp.	BC108, BC208, BC148
BC549	TO-92(VAR)	NS	30	30	100	0.6	100	200-800	2	300	10	500	Low Noise Small Sig.	BC109, BC209, BC149
BC549C	TO-92(VAR)	NS	30	30	100	0.6	100	420-800	2	300	10	500	Low Noise High Gain	BC109C, BC149C
BC556	TO-92(VAR)	PS	80	80	100	0.65	100	75-500	2	150	10	500	S.S. Amp.	
BC557	TO-92(VAR)	PS	45	50	100			110-330	2	150		500	G.P. Small Sig.	BC157, DS557
BC558	TO-92(VAR)	PS	30	30	100			75	2	150		500	G.P. Small Sig.	BC158, DS558
BC559	TO-92(VAR)	PS	30	30	100			125-600	2	150		500	G.P. Small Sig.	BC159
BC635	TO-92(74)	NS	45	45	1A	0.5	500	40-250	150	130	500	1W	Audio O/P	BC639
BC636	TO-92(74)	PS	45	45	1A	0.5	500	40-250	150	130	500	1W	Audio O/P	BC640
BC639	TO-92(74)	NS	80	100	1A	0.5	500	40-160	150	130		1W	Audio O/P	MU9610, TT801
BC640	TO-92(74)	PS	80	100	1A	0.5	500	40-160	150	50		1W	Audio O/P	MU9660, TT800
BCY70	TO-18	PS	40	50	200	0.5	50	50	10	250	50	350	G.P.	BC212
BCY71	TO-18	PS	45	45	200	0.5	50	100-600	10	200	50	350	G.P.	BC212
BCY72	TO-18	PS	25	25	200	0.5	50	50	10	200	50	350	G.P.	BC213
BD137	TO-126	NS	60	60	1A	0.5	500	40-160	150	250	500	8W	G.P. O/P	BD139
BD138	TO-126	PS	60	60	1A	0.5	500	40-160	150	75	500	8W	G.P. O/P	BD140
BD139	TO-126	NS	60	100	1A	0.5	500	40-160	150	250	500	8W	G.P. O/P	40409
BD140	TO-126	PS	80	100	1A	0.5	500	40-160	150	75	500	8W	G.P. O/P	40410
BD262	TO-126	PS	60	60	4A	2.5	1.5A	750	1.5A	7	1.5A	36W	High Gain Darl. O/P	BD266
BD263	TO-126	NS	60	80	4A	2.5	1.5A	750	1.5A	7	1.5A	36W	High Gain Darl. O/P	BD267
BD266A	TO-220	PS	80	80	8A	2	3A	750	3A	7		60W	High Gain Darl. O/P	
BD267A	TO-220	NS	80	100		2	3A	750	3A	7		60W	High Gain Darl. O/P	
BD681	TO-126	NS	100	100	4A			500	4A	1		40W	Darlington O/P	BD263
BD682	TO-126	PS	100	100	4A			750	1.5A	1		40W	Darlington O/P	BD263
BDY20	TO-3	NS	60	100	15A	1.1	4A	20-70	4A	1	4A	115	Power O/P	2N3055
BF115	TO-72(28)	NS	30	50	30			45-165	1	230	1	145	V.H.F. Amp	
BF167	TO-72(28)	NS	40	25				26	4	350	4	130	T.V. I.F. Amp	
BF173	TO-72(28)	NS	25	40	25			92	7	550	5	230	T.V. I.F. Amp	
BF178	TO-39	NS	115	185	50			20	30	120	10	600	T.V. Video Amp	BF336
BF179	TO-39	NS	115	250	50			20	20	120	10	600	T.V. Video Amp	BF338
BF180	TO-72(25)	NS	20	30	20			13	2	675	2	150	U.H.F. Amp	BF200
BF184	TO-72(28)	NS	20	30	30			75-750	1	300	1	145	H.F. Amp	
BF185	TO-72(28)	NS	20	30	30			34-140	1	220	1	145	H.F. Amp	BF195
BF194	SOT-25/1	NS	20	30	30			65-220	1	260	1	250	H.F. Amp	
BF195	SOT-25/1	NS	20	30	30			35-125	1	200	1	250	H.F. Amp	BF185
BF199	TO-92 (VAR)2	NS	25		25			37	7	550		500	H.F. Amp	BF180
BF200	TO-72(25)	NS	20	30	20			15	3	650	3	150	V.H.F. Amp	BF180
BF336	TO-39	NS	180	185	100			20-60	30	130		3W	Video Amp	
BF337	TO-39	NS	200	300	100			20-60	30	130		3W	Video Amp	
BF338	TO-39	NS	225	250	100			20-60	30	130		3W	Video Amp	
BF469	TO-126	NS	250	250	50			50	25	60		1.8W	G.P. High V. Amp	
BF470	TO-126	PS	250	250	50			50	25	60		1.8W	G.P. High V. Amp	
BFR90	SOT-37(2)	NS	15	20	25			25-250	14	5GHz	14	180	Wide Band Amp	
BFR91	SOT-37(2)	NS	12	15	35	0.3	30	25-250	30	5GHz	30	180	Wide Band Amp	
BFY50	TO-39	NS	35	80	1A	0.2	150	30	150	60	50	2.85W	G.P.	
BFY51	TO-39	NS	30	60	1A	0.35	150	40	150	50	50	2.85W	G.P.	
BFY52	TO-39	NS	20	40	1A	0.35	150	60	150	50	50	2.85W	G.P.	
BFY90	TO-70(25)	NS	30	30	25			25-125	2	1.3GHz	25	200	U.H.F. Amp	

PLEASE NOTE:

Not all devices shown in this section are stocked by Dick Smith Electronics. In most cases, however the specifications should enable substitution to be made with a transistor from the DSE range in all but the most critical applications.
Most circuits published by the electronics magazines deliberately use 'garden variety' transistors for which a large number of substitutes are possible. If a device is critical they will usually specify it as such.

While every effort is made to ensure that this data is correct and as up-to-date as possible, no responsibility will be accepted for its use or consequences arising therefrom. If in doubt, please consult manufacturer's data sheets.

NOTE: Some small signal transistors may be supplied in a TO-92 case with a 'PN' prefix. The electrical specifications are the same; only the case is changed. See case outline TO-92(72) for pin detail.

BIPOLAR TRANSISTORS

TYPE	CASE	POL MAT	Vce	Vcb	IC mA	Vces @	IC	Hfe @ IC mA		MHz Ft @	IC mA	Ptot mW	USE	COMPARABLE TYPES
BUX80	TO-3	NS	400		10A	1.5	5A			8		100W	Deflection, High current Sw.G.P. Power	
DS547	TO-92	NS	45	50	100	0.6	100	110-800	2	300	10	500	S.S. Amp	BC107, BC207, BC147
DS548	TO-92	NS	30	30	100	0.6	100	110-800	2	300	10	500	S.S. Amp	BC108, BC208, BC148
DS549	TO-92	NS	30	30	100	0.6	100	200-800	2	300	10	500	Low Noise Small Sig.	BC109, BC209, BC149
DS557	TO-92	PS	45	50	100	0.25	100	75-260	2	150	10	300	S.S. Amp	BC177, BC307, BC212
DS558	TO-92	PS	25	30	100	0.25	100	75-100	2	150	300	S.S.Amp	BC178, BC308, BC213	
MJ802	TO-3	NS	90	100	30A	0.8	7.5A	25-100	7.5A	2	1A	200W	HighPower O/P	
MJ2501	TO-3	PS	80	80	10A	2	5A	1000	5A			150W	Darl. O/P	MJ2955
MJ2955	TO-3	PS	60	70	15A	1.1	4A	20-70	4A	4	500	115W	High Power O/P	2N4908, 2N4909, 2N5871
MJ3001	TO-3	NS	80	80	10A	2	5A	1000	5A			150W	Darl. O/P	
MJ4502	TO-3	PS	90	100	30A	0.8	7.5A	25-100	7.5A	2	1A	200W	High Power O/P	
MJ15003	TO-3	NS	140	140	20A			25-150		2		250W	HighPower O/P	
MJ15004	TO-3	PS	140	140	20A			25-150		2		250W	High Power O/P	
MJE340	77-03/199-04	NS	300		500	0.75	100	30-240	50			20W	G.P. High V. Power	
MJE350	77-03/199-04	PS	300		500	0.77	100	30-240	50			20W	G.P High V. Power	
MJE2955	90-05/199-04	PS	60	70	10A	1.1	4A	20-100	4A	2	500	75W	G.P. Power	TIP2955
MJE3055	90-05/199-04	NS	60	70	10A	1.1	4A	20-100	4A	2	500	75W	G.P. Power	TIP3055
MRF629	79-03	NS	16	36	400			20-200	100			5W	R.F Power UHF	
MRF660	TO-220AB	NS	16	36	2.4A			20-160	250			25w	R.F. Power UHF	
MU9610	152	NS	30	40	2A	0.4	1.5a	80-400	350	70	250	1W	O/P	TT801
MU9611	152-01	NS	30	40	2A	0.4	1.5A	80-400	350	70	250	1W	O/P	TT801
MU9660	152	PS	30	40	2A	0.4	1.5A	80-400	350	70	250	1W	O/P	TT800
MU9661	152-01	PS	30	40	2A	0.4	1.5a	80-400	350	70	250	1w	O/P	TT800
NSD106	TO-202(35)	NS	100	140		2.9	100	50-150	100	80	50		Driver-O/P	
NSD206	TO-202(35)	PS	100	100		2.1	100	50-150	100	150	50		Driver-O/P	
OC26	TO-3	PG	30	50	3.5A	0.7	3A	300-100	1A	0.3	500	32W	G.P. O/P	AD149
OC28	TO-3	PG	60	100	10A	10A	0.4	20-55	1A	0.2	1A	30W	H.C. Switch	ASZ15
OC44N	TO-1	PG	5	15	10			45-225	1	7.5	1	85	R.F. Amp	AF125, AF135, AF172
OC45	GT-3	PG	5	15	10			25-125	1	3	3	85	R.F. Amp	AF132, AF185, AF196
OC70	GT-3	PG	10	30	50			30	5	0.5		125	G.P. Amp	AC121, AC126, 2N1190
OC71	GT-3	PG	10	30	50			30-75	3	0.6		125	G.P.Amp	AC126, 2N2429
OC72	GT-6	PG	16	32	250			45-120	10	0.35		165	Audio O/P	AC122, AC125, AC162
OC74N	TO-1	PG	10	20	300	0.6	300	60-150	50	0.1		550	Audio O/P	AC125, AC180, AC192
OC75	GT-3	PG	10	30	50			60-130	3	0.1		125	G.P. Amp	AC173, AC192
TIP31B	TOP-66	NS	80	80	3A	1.2	3A	20	500	3	500	40W	Power Amp-Sw	
TIP32B	TOP-66	PS	80	80	3A	1.2	3A	20	500	3	500	40W	Power Amp-Sw	
TIP2955	TOP-3	PS	70	100	15A	1.1	4A	20	4A	0.8		90W	Power Amp-Sw	MJE2955
TIP3055	TOP-3	NS	70	100	15A	1.1	4A	20	4a	0.8		90W	Power Amp-Sw	MJE3055
TT800	TO-39(Mod)	PS	60	60	1A			40-120	100	100		800	Audio Driver-Sw	TT797, NSD206, 2N4030
TT801	TO-39(Mod)	NS	60	80	1A			40-120	150	60		800	Audio Driver-Sw	TT798, NSD106, 2N3019
2N301	TO-3	PG	32	40	3A			50	1A	0.2	1A	11W	Audio O/P	AT1138, OC26
2N706A	TO-18	NS	15	25	200			20	10	200		300	High S.Sw	
2N2222A	TO-18	NS	40	75	800	1	500	75	10	300	20	500	High S.Sw	
2N2904A	TO-39	PS	40	60	600	1.6	500	40-120	150	200	50	600	High S.Sw	
2N2905A	TO-39	PS	60	60	600	1.6	500	100-300	150	200	50	600	High S.Sw	
2N2926	TO-92(74)	NS	25	25	100			150	2	100		200	G.P.	BC108 etc
2N3019	TO-39	NS	80	140	1A	0.5	500	50-100	500	100	50	800	H.F. Amp	
2N3053	TO-39	NS	40	60	700	1.4	150	50-250	150	100	50	2.86W	G.P. Switch	BD137
2N3054	TO-66	NS	55	90	4A	0.1	200	25	500	0.8	200	25W	Audio O/P	TIP31B
2N3055	TO-3	NS	60	90	15A	1.1	4A	20	4A	0.8	1A	115W	O/P - Sw	BDY20
2N3563	TO-106	NS	12	30	50			20-200	8	600	8	200	R.F. - I.F. Amp & Ass	BF173
2N3564	TO-106	NS	15	30	100	0.3	20	20-500	15	400	15	200	R.F. - I.F. Amp & Ass	BF167
2N3565	TO-106	NS	25	30	50	0.35	1	150-600	1	400	1	200	Low Level Amp	BC108, BC208
2N3566	TO-105	NS	30	40	200	1	100	150-600	10	40	30	300	G.P. Amp & Sw	BC183
2N3567	TO-105	NS	40	80	500	0.25	150	40-120	1	60	50	300	G.P. Amp & Sw	BC337
2N2568	TO-105	NS	60	80	500	0.25	150	40-120	1	60	50	300	G.P. Amp & Sw	
2N3569	TO-105	NS	40	80	500	0.25	150	100-300	1	60	50	300	G.P. Amp & Sw	
2N3638	TO-105	PS	25	25	500	0.25	50	30	50	100	50	300	G.P. Amp & Sw	BC327
2N3638A	TO-105	PS	25	25	500	0.25	50	100	50	150	50	300	G.P. Amp & Sw	BC558
2N3640	TO-106	PS	12	12	80	0.2	10	30-120	10	300	10	200	Saturated Switch	
2N3641	TO-105	NS	30	60	500	0.22	150	40-120		250	50	350	G.P. Amp & Sw	BC337
2N3642	TO-105	NS	45	60	500	0.22	150	40-120	150	250	50	350	G.P. Amp & Sw	BC337
2N3643	TO-105	NS	30	60	500	0.22	150	100-300	150	250	50	350	G.P. Amp & Sw	BC337
2N3644	TO-105	PS	45	45	500	1	300	115-300	50	200	20	300	G.P. Amp & Sw	BC327
2N3645	TO-105	PS	60	60	500	1	300	115-300	500	200	20	300	G.P.Amp & Sw	
2N3702	TO-92(74)	PS	25	40	200	0.25	50	60-300	50	100	50	360	G.P. Amp & Sw	BC213
2N3866	TO-39	NS	30	55	400			10-200	50	500	50	1W	V.H.F. Amp	
2N3904	TO-92	NS	40	60	200			100-300	1mA			310	Low Level Amp	BC167A, BF194
2N3905	TO-92	PS	40	40	200	0.4	50	50-200	1mA	200	20	310	G.P. Amp & Sw	
2N3948	TO-39	NS	20	36	400			15	50	700	50	1W	V.H.F. Amp	
2N4030	TO-39	PS	60	60	1A	0.5	500	15	100	260	100	800	G.P. Amp & Sw	
2N4250	TO-106	PS	40	40	100	0.25	10	250-400	0.1	50		200	Low Level Amp	BC559
2N4258	TO-106	PS	12	12	50	0.5	50	30-120	10	700	10	200	Saturated Sw	
2N4292	TO-92	NS	15	30	50	0.6	10	20	3	600	4	200	Saturated Sw	
2N4403	TO-92	PS	40	40	600			100-300	10			310	G.P.	BC307A, 2N2904
2N4427	T0-39	NS	20	40	400	0.4	100	10-200	100	500	50	1W	VHF/UHF/Driver	2N3866
2N4429	TO-39	NS	20	40	400			10-200	100	500	50	1W	V.H.F. Amp	
2N5589	MT-71C	NS	18	36	600			5	100	175	3W	15W	H.F. Mobile R.F.	
2N5590	MT-72C	NS	18	36	2A			5	250	175	10W	30W	H.F. Mobile R.F.	
2N5591	MT-72C	NS	18	36	4A			5	500	175	25W	70W	H.F. Mobile R.F.	
2N5871	TO-3	PS	60	60	7A	1	4A	20-100	2.5A	4	250	100W	Power Transistor	2N5872, 2N4908, MJ2955
2N6084	MT-72C	NS	18	36			6A	5X	1A	175X	40W	80W	VHF Output	B40-12
2SA733	TO-92/74	PS	40	50	100	0.3	100	200	1	180-250		AF Amp	BC417	
2SB367	PT-1	PG	25	25			1A	45-70	500	0.5		4W	Audio Output	AD162
2SC710	TO-92/76	NS	25	30	30	90	1						GP RF Amp	BFS18
2SC1096	TO-202-R	NS	30	40			2A	45-250	1A	60		10W	G.P.Output	2SC1098, TIP31
2SC1306	TOP-66	NS	65	65			3A	40-200	500	300		12W	H.F. Output	2SC2166
2SC1307	TOP-66	NS	70	70			8A	20-150	2A	150		25W	H.F. Output	2SC1969
2SC1674	TO-92	NS	20	30	20	0.3	10	40-180	1	600	1	250	VHF Amp	
2SC1969	TOP-66	NS	30	60			6A	10-180	10	150		20W	H.F. Output	2SC1307
2SC2166	TOP-66	NS	75	75			4A	35-180	100				H.F. Output	2SC1306
40250	TO-66	NS	50	50	4A	1.5	1.5A	25	100	1		29W	Power Transistor	2N3054
40408	TO-5	NS	80		700	1.4	150	40-200	200	100		1W	Power Transistor	BC639
40409	TO-39(H)	NS	80		700	1.4	150	50-250	150	100		3W	Power Transistor	BD139
40410	TO-39(H)	PS	80		700	1.4	150	50-250	150	100		3W	Power Transistor	BD140

FETS

FETS	Case	BVGSS V @	IG(uA)	VGS(OFF) Min	Max @ VDS	ID(nA)	IDss(mA) Min	Max @ VDS	VGS	Yfs(umhos) Min	Max @ VDS	Ptot mW	Use/Comments
BF245B	TO-92 Var 1	60	1	0.5	8	15 10	6	15 15	0	3000	6500 15	300	N/CH Junction Audio to H.F.
BF981	SOT-103	>6		2.5		10 20uA	4	25 10	0	14000	typ	225	N/CH Dual Gate MOS. VHF Amp.
BFW10	TO-72(25)	30					8	20 15	0		6500	300	N/CH Junction Audio to H.F.
BFW11	TO-72(25)	30					4	10 15	0		6500	300	N/CH Junction Audio to H.F.
BFW61	TO-72(25)	25					2	20 15	0		6500	300	N/CH Junction Audio to H.F.
MEM631	W-25	± 6	± 10		4	15 200uA	5	30 15	0	1600	typ 15	500	N/CH Dual Gate MOS. VHF Amp.
MFE131	TO-72(2)	± 6	± 10		4	15 200uA		30 15	0	8000	20000 15	300	N/CH Dual Gate MOS. VHF Amp.
MPF102	TO-92(72)	25	10	0.5	8	15 2	2	20 15	0	2000	7500 15	310	N/CH Junction — VHF
MPF103	TO-92(72)	25	1		6	15 1	1	5 15	0	1000	5000 15	310	N/CH Junction — Audio Sw.
MPF104	TO-92(72)	25	1		7	15 1	2	9 15	0	1500	5500 15	310	N/CH Junction — Audio Sw.
MPF105	TO-92(72)	25	1		8	15 10	4	16 15	0	2000	6000 15	310	N/CH Junction — Audio Sw.
MPF106	TO-92(72)	25	1	0.5	4	15 10	4	10 15	0	2500	7000 15	310	N/CH Junction — RF
MPF121	206(B)	± 6	± 10		4	15 200uA	5	30 15	0	10000	20000 15	500	N/CH Dual Gate MOS. VHF Amp.
MPF131	262	± 6	± 10		4	15 200uA	3	30 15	0	8000	20000 15	350	N/CH Dual Gate MOS. VHF Amp.
2N4342	TO-92(72)	25	10		5	10	12	30 10	0		6000 10	180	P/CH Junction — Audio Sw.
2N4360	TO-92(72)	40	10	0.5	6	15 100	1	5 15	0	1000	5000 15	310	P/CH Junction — Audio Sw.
2N5245	TO-92/77	30	1	1.5	6	10	1	18	0		5800 typ 10	360	N/CH VHF/UHF Mixer
2N5457	TO-92(72)	25	1	0.5	6	15 10	1	5 15	0	1000	5000 15	310	N/CH Junction — Audio Sw.
2N5458	TO-92(72)	25	1	1	7	15 10	2	6 15	0	1500	5500 15	310	N/CH Junction — Audio Sw.
2N5459	TO-92(72)	25	1	2	8	15 10	4	9 15	0	2000	6000 15	310	N/CH Junction — Audio Sw.
2N5484	TO-92(72)	25	1	0.3	3	15 10	1	5 15	0	3000	6000 15	310	N/CH Junction — VHF
2N5485	TO-92(72)	25	1	0.5	4	15 10	4	10 15	0	3500	7000 15	310	N/CH Junction — VHF
2N5486	TO-92(72)	25	1	2	6	15 10	8	20 15	0	4000	8000 15	310	N/CH Junction — VHF
3SK40	TO-72(2)	± 6	± 10		4	15 200uA		25 15	0	8000	15	250	N/CH Dual Gate MOS. VHF Amp.
3SK121	2-6F1A	-5		-2.5	4	5 100uA	20	45 5	0	17000	typ typ 10	200	N/CH UHF GaAs Dual Gate
40673	TO-72(2)	± 6	± 10	-2	typ	15 200uA		35 15	0	12000	15	330	N/CH Dual Gate MOS. VHF Amp.

POWER FETS	Case	V_{DSS} (min) V @ I_D	I_D (max) A	$V_{DS(on)}/I_D$ V/A V_{GS} = 10V	$V_{GS(off)}$ I_D = 1mA min V max	Power Diss T_C = 25°C W	Use/Comments
VN46AF	TO-202 F	40 10uA	2.0	3.0/1.0	0.8 2.0	12.5	N-chan Enhancement Mode VMOS FET
VN66AF	TO-202 F	60 10uA	2.0	3.0/1.0	0.8 .20	12.5	N-chan Enhancement Mode VMOS FET
VN86AF	TO-202 F	80 10uA	2.0	4.0/1.0	0.8 2.0	12.5	N-chan Enhancement Mode VMOS FET
2SJ48	TO-3 F	-120 -10mA	-7	-12/-7 (VGD+0)	-0.15 -1.45	100	P-chan Enhancement Mode MOS FET
2SJ49	TO-3 F	-140 -10mA	-7	-12/-7	-0.15 -1.45	100	P-chan Enhancement Mode MOS FET
2SJ50	TO-3 F	-160 -10mA	-7	-12/-7	-0.15 -1.45	100	P-chan Enhancement Mode MOS FET
2SK133	TO-3 F	120 10mA	7	12/7	0.15 1.45	100	N-chan Enhancement Mode MOS FET
2SK134	TO-3 F	140 10mA	7	12/7	0.15 1.45	100	N-chan Enhancement Mode MOS FET
2SK135	TO-3 F	160 10mA	7	12/7	0.15 1.45	100	N-chan Enhancement Mode MOS FET

DIODES

TYPE	CASE	VR	IF (mA)	Cd (pF)	VF @	IF (mA)	IR (uA)	@ VR	Trr (nS)	Use/Comparable Types
Germanium										
AA119	DO-7	30	100	1.2	2.2	10	150	30		AM/FM Detection Point Contact
OA47	DO-7	25	110	3.5	0.45	10	100	25	70	Gold Bonded G.P. Switching
OA90	DO-7	20	45		1.5	10	450	20		G.P. Point Contact OA70, OA80
OA91	DO-7	90	50		1.9	10	180	75		G.P. Point Contact OA71, 79, 81
DSOA91	DO-7	50	30	1	1	5	200	10		G.P. OA91, 1N60
OA95	DO-7	90	50		1.5	10	110	0.75		G.P. Point Contact
Silicon										
BA100	DO-7	60	90	25	0.96	10	10	60		G.P. — Alloyed
BA102	DO-7	20		20-45	Cd Ratio 1.4 @	4/10 V/VV				Variable Capacitance
BA114	DO-7		20		0.7	1				Bias Stabilizer
BA234/4	DO-35	20	100	<2	1	100	0.1	15		UHF Sw.
BAW62	SOD-27	75	200	2	0.75	5	5	75	4	High Speed Silicon Sw.
BB119	DO-35	15		20-25 @ 4V	Cd Ratio >>1.3					Varicap — replaces BA102
BB122	DO-35	30		12 @ 3V	Cd Ratio 5.2		0.05	28		Varicap VHF UHF
OA200	DO-7	50	160	25	0.96	10	0.1	50		Small Signal — Alloyed
OA202	DO-7	150	160	25	0.96	10	0.1	150		Small Signal — Alloyed
1N914A	DO-35	75	75	4	1	10	5	75	4	Small Signal Sw. 1N4148
1N4148	DO-35	75	200	4	1	10	0.025	20	4	Small Signal Sw. 1N914A
1N4448	DO-35	75	300	4	1	100	0.025	6	4	G.P. Silicon Sw. 1N4148
5082-2800	DO-7	70	15	2	0.41	1	0.2	50	0.1	Schottky (Hot Carrier) UHF Detector, Mixer Switch

SCR's

TYPE	CASE	VDRM	IT (r.m.s.) (A)	IGT (mA)	VGT	PG (AV) (W)	IH (mA)	dv/dt (V/uS)	Comments (25°C)
C103B	TO-92	200	.8	.2 max	.8 max	.01	5 max	20 typ	(R_{GK}=1k)
C106Y	TO-202	30	4	.2 max	.8 max	.1	5 max	8 typ	(R_{GK}=1k)
C106D	TO-202	400	4	.2 max	.8 max	.1	3 max	8 typ	(R_{GK}=1k)
C122D	TO-220	400	8	25 max	1.5 max	.5	3 max	50 typ	(Gate o/c)
C122E	TO-220	500	8	25 max	1.5 max	.5	30 max	50 typ	(Gate o/c)
C164D	TO-48	400	16	40 — 80	2 typ				
C168D	TO-48	800	16	40 — 80	2 typ				
S4008	TO-220	400	8	25 max	1.5 max	.5	30 max	50 typ	(Gate o/c)
S6008L	TO-220	600	8	25 max	1.5 max	.5	30 max	50 typ	(Gate o/c)
TIC126E	TO-220	500	8	20 max	1.5 max	.5	40 max	100 typ	(Gate o/c)

TRIAC's

TYPE	CASE	VDRM	IT (r.m.s.) (A)	IGT (mA)	VGT	PG (AV) (W)	IH (mA)	dv/dt (V/uS)	(25°C)
BT139-500	TO-220	500	16	50	1.5(Tj = 25°C)	.5	30	100 min.	(Gate o/c)
Q-40006L4	TO-220	400	6	75 max. all modes	2.5 max. all modes	.9	60 max	100 typ	(Gate o/c)
SC141D	TO-220	400	6	50 "	2.5 "	.5	50 max	100 typ	(Gate o/c)
SC146D	TO-220	400	10	50 "	2.5 "	.5	50 max	150 typ	(Gate o/c)
SC151D	TO-220	400	15	50 "	2.5 "	.5	50 max	250 typ	(Gate o/c)
TIC246D	TO-220	400	16 *		2.5 "		50 max		(* case temp. below 80°)
2N6341	TO-220	400	8	75 "	2.5 "	.5	75 max	5 typ	(commutating)

RECTIFIERS

TYPE	MAT	VR	IF(A)	VF	@	IF(A)	IR(uA)	@	VR	USE
A14P	S	1000	2.5	1.25		2.5	0.5		1000	Transient Protected (Controlled Avalanche)
A15P	S	100	5	1.1		5	5		100	G.P. Rectifier
A15B	S	200	5	1.1		5	5		200	Transient Protected (Controlled Avalanche)
BYX21/200/R	S	75	25	1.2		25	1.1mA		75	Automobile H. Duty Press fit.
BYX98/300	S	300	10	1.4		10	200		300	Power Rectifier Stud Mount
DS5404	S	200	3	1.1		3	5		200	G.P. Rectifier
EM4005	S	50	1	1.1		1	5		50	G.P. Rectifier
EM401	S	100	1	1.1		1	5		100	G.P. Rectifier
EM404	S	400	1	1.1		1	5		400	G.P. Rectifier
EM410	S	1000	1	1.1		1	5		1000	G.P. Rectifier
MR110	S	100	10							G.P. Stud Mount
MR410	S	400	10							G.P. Stud Mount
MR5108	S	1000	3	1.1		3	5		1000	G.P. Rectifier
IN3492/R	S	100	25	1.7		18	1mA		100	Heavy Duty Automobile Press fit.
IN3493/R	S	200	25	1.7		18	1mA		200	Heavy Duty Automobile Press fit.
IN4001	S	50	1	1.1		1	5		50	G.P. Rectifier.
IN4002	S	100	1	1.1		1	5		100	G.P. Rectifier.
IN4004	S	400	1	1.1		1	5		400	G.P. Rectifier.
IN4007	S	1000	1	1.1		1	0.2		1000	G.P. Rectifier.
IN5059(A14B)	S	200	2.5	1.25		2.5	0.2		200	Transient Protected (Controlled Avalanche).
IN5060(A14D)	S	400	2.5	1.25		2.5	0.2		400	Transient Protected (Controlled Avalanche).
IN5061(A14M)	S	600	2.5	1.25		2.5	0.2		600	Transient Protected (Controlled Avalanche).
IN5062(A14N)	S	800	2.5	1.25		2.5	0.5		800	Transient Protected (Controlled Avalanche).
IN5404	S	400	3	1.1		3	5		400	G.P. Rectifier.
IN5408	S	1000	3	1.1		3	5		1000	G.P. Rectifier.
IN5624	S	200	5	1.1		5	5		200	Transient Protected (Controlled Avalanche).

RECTIFIER BRIDGES

TYPE	MAT	VR	IF(A)	VF	@	IF(A)	IR(uA)	@	VR	USE
PA60	S	600	8							G.P. Bridge
PB40	S	400	25	1.2 (per leg)		12.5	10		400	Heavy Duty Bridge
MB1	S	100	1.8				5		100	Mini Bridge
MB4	S	400	1.8				5		400	Mini Bridge
PO4	S	400	6	1.3 (per leg)		6	10		400	Medium Duty Mini Bridge
WO2	S	200	1.5	1.1 (per leg)		1	10		200	Mini Bridge
WO4	S	400	1.5	1.1 (per leg)		1	10		400	Mini Bridge

7 SEGMENT LED DISPLAYS

Characteristic	Device: DL704 DL707	LT302 LT312 Z-4117	LT303 LT313 Z-4103	DL747	LN516RK FND500 FND507 FND560 Z-4150	LT547EJ Z-4151	TIL393-9 Z-4155
Digit Size	*7.6mm*	*7.6mm*	*7.6mm*	*15.2mm*	*12.7mm*	*12.7mm*	*2.6mm*
Colour	*red*	*red*	*red*	*red*	*red*	*orange*	*red*
Av. Fwd. Current Segment	*25mA*	*25mA*	*25mA*	*25mA*	*25mA*	*20mA*	*5mA*
Fwd. Voltage	*1.6*	*1.7V*	*1.7*	*2.4*	*1.7*	*2.1*	*1.7*
Min Reverse Breakdown Voltage	*3V*	*3V*	*3V*	*6V*	*3V*	*5V*	*3V*
Max Rev Current	*100uA*	*100uA*	*100uA*	*100uA*	*100uA*	*100uA*	*100uA*
Light Intensity Segment	*320ucd*	*800ucd*	*800ucd*	*600ucd*	*600ucd*	*3300ucd*	*600ucd*
Max Pwr. Dissip.	*500mW*	*340mW*	*340mW*	*960mW*	*400mW*	*400mW*	

Common Cathode Types

DL704, TIL393-9, FND500, Z 4103, FND560, Z 4150, LN516RK, Z 4151, LT303, LT313, LT547EJ

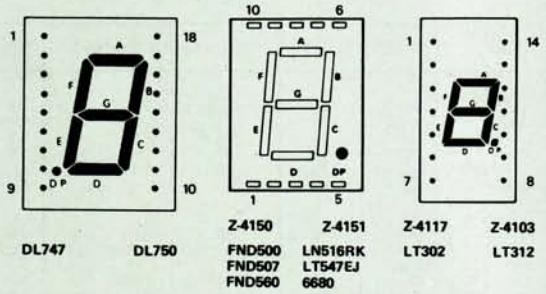
Common Anode Types

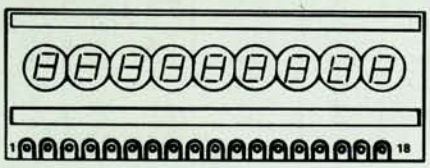
DL707, DL747, FND507, LT302, LT312, Z 4117, Z 4152

Pin out Z-4155 TIL393-9

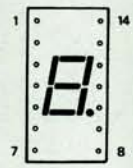
1. NC	*7. Seg A Anodes*	*13. Seg G Anode*
2. Digit 1 Cath	*8. Dig 4 Cath*	*14. Dig 7 Cathode*
3. Seg C Anode	*9. Seg E Anodes*	*15. Seg B Anode*
4. Dig 2 Cath	*10. Dig 5 Cath*	*16. Dig 8 Cath*
5. Dec P. Anodes	*11. Seg D Anode*	*17. Seg F Anode*
6. Dig 3 Cath	*12. Dig 6 Cath*	*18. Dig 9 Cath*

Pin Connections (top view)





Multiplexed 9 Digit Z 4155, TIL393-9 Display



DL704 DL707

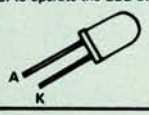
Pin out DL747		Pin out Z-4150 Z-4151 FND500 FND507 FND560 LT516RK LT547EJ 6680		Pin out DL704		Pin out DL707		Pin out Z-4117 LT302 LT312		Pin out Z-4103 LT303 LT313	
1. NC	*10. NC*	*1. Seg. E*	*10. Seg. G*	*1. Seg. F*	*10. NC*	*1. Seg. A*	*10. Seg. C*	*1. Seg. A*	*10. Seg. C*	*1. NC*	*10. R. Dec Point*
2. Seg. A	*11. Seg. D*	*2. Seg. D*		*2. Seg. G*	*11. NC*	*2. Seg. F*	*11. Seg. G*	*2. Seg. F*	*11. Seg. G*	*2. Cathode*	*11. Seg. C*
3. Seg. F	*12. Common*	*3. Common*		*3. NC*	*12. Cathode*	*3. Anode*	*12. NC*	*3. Anode*	*12. NC*	*3. Seg. F*	*12. Seg. B*
4. Common	*13. Seg. C*	*4. Seg. C*		*4. Cathode*	*13. Seg. B*	*4. NC*	*13. Seg. B*	*4. NC*	*13. Seg. B*	*4. Seg. G*	*13. Seg. A*
5. Seg. E	*14. Seg. G*	*5. Dec. Point*		*5. NC*	*14. Seg. A*	*5. NC*	*14. Anode*	*5. NC*	*14. Anode*	*5. Seg. E*	*14. NC*
6. Common	*15. Seg. B*	*6. Seg. B*		*6. Seg. E*		*6. Dec. Point*		*6. L. Dec. Point*		*6. Seg. D*	
7. Dec. Point	*16. NC*	*7. Seg. A*		*7. Seg. G*		*7. Seg. E*		*7. Seg. E*		*7. NC*	
8. NC	*17. Common*	*8. Common*		*8. Seg. C*		*8. Seg. D*		*8. Seg. D*		*8. NC*	
9. NC	*18. NC*	*9. Seg. F*		*9. Dec. Point*		*9. Anode*		*9. R. Dec. Point*		*9. Cathode*	

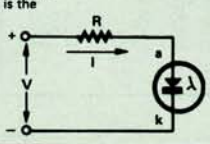
USING LEDS

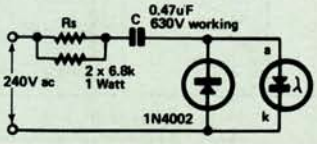
DC Operation

When using a Light Emitting Diode (LED) as an indicator, use the following formula to determine series resistance for various voltages: R = (E−1.7) x 1000 : I; where R is the resistance in ohms, E is the supply voltage (DC) and I is the LED current in milliamps.

EG. to operate the LED at 20mA; for 6V, use 220 ohms
9V, use 390 ohms
12V, use 560 ohms
24V, use 1.2k ohms







Mains Operation

To operate a LED directly from the 240V mains, a better scheme is to use the second circuit shown. In this, a capacitor is used as the voltage dropping element. A 1N4002 diode or similar across the LED provides the rectification required. As the voltage drop across the LED is negligible compared with the supply, capacitor current is almost exactly equal to mains voltage divided by the capacitive reactance Xc.

At 50Hz, 0.47uF will result in an Av LED current of about 16mA. Resistor Rs is to limit turn-on transients. A value of around 3.4k (2 x 6.8k par.) should be adequate.

ZENER DATA

Type No. ▲ 400mW Series	Type No. ▼ 1Watt Series	Nominal Zener Voltage V_z @ I_{ZT} (V)	Test Current I_{ZT} (mA) 400mW	1W
1N746	1N4728	3.3	20	
1N747	1N4729	3.6	20	
1N748	1N4730	3.9	20	
1N750	1N4732	4.7	20	53
1N751	1N4733	5.1	20	49
1N752	1N4734	5.6	20	45
1N753	1N4735	6.2	20	41
1N754,1N957	1N4736	6.8	18.5	37
1N755,1N958	1N4737	7.5	16.5	34
1N756,1N959	1N4738	8.2	15	31
1N757,1N960	1N4739	9.1	14	28
1N758,1N961	1N4740	10	14	25

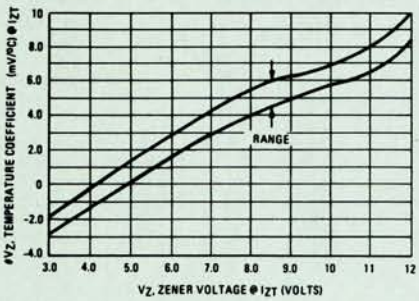
▲DC Power Dissipation: 400milliwatts @ 50°C Ambient (Derate 3.2mW/°C above 50°C)

Type No. ▲ 400mW Series	Type No. ▼ 1Watt Series	Nominal Zener Voltage V_z @ I_{ZT} (V)	Test Current I_{ZT} (mA) 400mW	1W
1N962	1N4741	11	12.5	23
1N759,1N963	1N4742	12	11.5	21
1N964	1N4743	13	10.5	19
1N965	1N4744	15	9.5	17
1N966	1N4745	16	8.5	15.5
1N967,1N4112	1N4746	18	7.8	14
1N968	1N4747	20	7	12.5
1N969	1N4748	22	6.2	11.5
1N970	1N4749	24	5.6	10.5
1N971	1N4750	27	5.3	9.5
1N972	1N4751	30	5.3	8.5
1N973	1N4752	33	5.2	7.5

▼DC Power Dissipation: 1Watt @ 50°C Ambient) (Derate 6.67mW/°C above 50°C)

This range will dissipate up to 3W @ 75°C with 10mm lead length as heatsink.

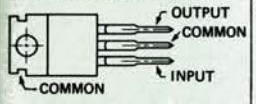
Temperature coefficient range for 1Watt units to 12 volts.



THREE TERMINAL REGULATORS

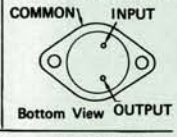
Type	Polarity	Case	V_{OUT} min	typ	max	I_{OUT} (nom)	Dropout Voltage
78L05	positive	TO-92	4.8	5	5.2	100mA	1.7
78L62	positive	TO-92	5.95	6.2	6.45	100mA	1.7
78L09	positive	TO-92	8.64	9	9.36	100mA	1.7
78L12	positive	TO-92	11.5	12	12.5	100mA	1.7
78L15	positive	TO-92	14.4	15	15.6	100mA	1.7
7805	positive	TO-220	4.8	5	5.2	1A	2
7806	positive	TO-220	5.75	6.0	6.25	1A	2
7809	positive	TO-220	8.64	9	9.36	1A	2
7812	positive	TO-220	11.5	12	12.5	1A	2
7815	positive	TO-220	14.4	15	15.6	1A	2
7824	positive	TO-220	23	25	25	1A	2
7905	negative	TO-220	-4.8	-5	-5.2	1A	1.1
7912	negative	TO-220	-11.5	-12	-12.5	1A	1.1
7915	negative	TO-220	-14.4	-15	-15.6	1A	1.1
LM317K	positive	TO-3	adj. 1.2 to 37			1.5Amin	
LM317T	positive	TO-220	adj. 1.2 to 37			1.5Amin	
LM350K	positive	TO-3	adj. 1.2 to 33			3A	
LM350T	positive	TO-220	adj. 1.2 to 33			3A	
78H05	positive	TO-3	4.85	5	5.25	5A	2.5

Connections TO-220 Package 78xx Positive Regulator Series



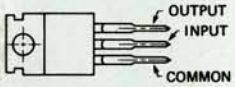
Top View

Connections TO-3 Package 78H05 Positive Regulator



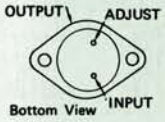
Bottom View

Connections TO-220 Package 79xx Negative Regulator Series



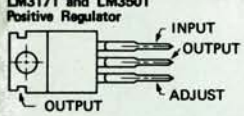
Top View

Connection TO-3 Package LM317K and LM350K Positive Regulator



Bottom View

Connections TO-220 Package LM317T and LM350T Positive Regulator



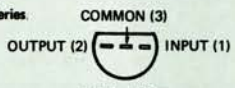
Top View

Note:
Maximum power dissipation for:

TO-220 pack
LM317T 15W
LM350T 25W

TO-3 pack
LM317K 20W
LM350K 30W

Connection TO-92 Package 78Lxx Positive Regulator Series



Bottom View

Maximum Power Dissapation for TO-92 Pack 0.75W

VOLTAGE REGULATORS

These voltage regulators almost make power supply building unnecessary since they require only a filtered DC voltage input, they are essentially indestructible (if used within manufacturer's specs.) because of internal current limiting and thermal shutdown should a short occur. They are ideally suited to local, on board regulation simplifying power supply distribution systems. Excellent for TTL and project supplies. With the advent of microprocessors and microcomputers, these regulators have been used extensively in power supplies for such systems. This type of use typifies their versatility and reliability. Another area of supply regulation use is with analogue operational amplifiers. These circuits usually call for both + and - complementary rail voltages. These three terminal devices ideally suit such requirements. Both positive and negative devices will give a current output in excess of 1A and foldback current limiting occurs if the output is shorted.

INCREASE THE OUTPUT VOLTAGE OF A 3 TERMINAL VOLTAGE REGULATOR

Regulators like the 7805 and the 7905 can give higher output if two additional resistors are configured into the circuit as shown below.

$R1 = V_R/0.02$

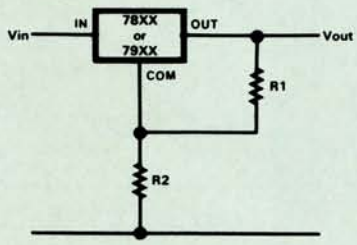
$R2 = V_B/0.025$

Where V_R is the normal regulated voltage from the IC and V_B is the amount by which the regulator has to be boosted above V_R. Some examples are given below:

V_{out}	Regulator	R1	R2
6	5V	220	39
9	5V	220	150
13.8	12V	560	68
18	15V	680	120

To make a variable regulator, use a potentiometer as R2.

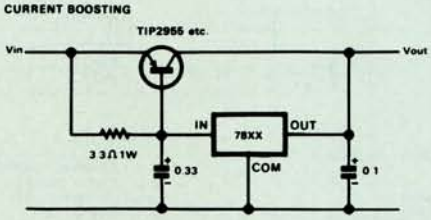
VOLTAGE BOOSTING



INCREASING THE OUTPUT CURRENT OF THE REGULATOR

By adding a PNP power transistor to a positive regulator, the output current can be increased above the normal rating of the regulator itself. The circuit shown below can be expected to deliver in excess of 4A with the pass transistor mounted on a heatsink. The same conditions can also be implemented with a negative regulator, the difference being the polarities of components, the pass transistor in this case would be an NPN type such as a 2N3055.

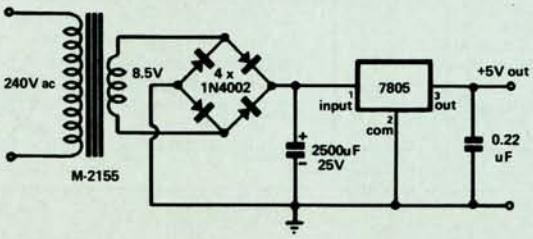
CURRENT BOOSTING



TYPICAL POWER SUPPLY USING A 3 TERMINAL REGULATOR

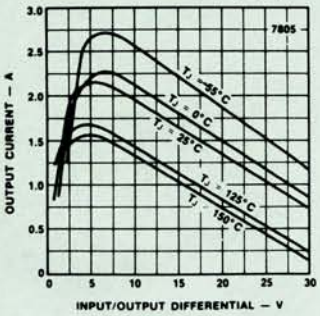
Output: 5V @ 1A

The same basic circuit can be used with other regulators of different voltages, only the input ac voltage has to be changed to accommodate the the requirement of that regulator. eg. If an output of 12V was the requirement, a 7812 IC could be used with an ac input voltage of 15V.

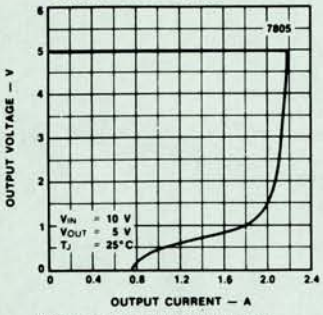


TYPICAL CHARACTERISTICS OF THE 7805 3 TERMINAL REGULATOR

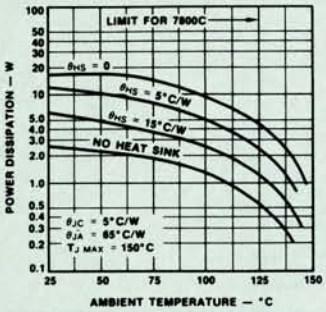
The other members of this 78xx/79xx family have similar characteristics to those shown. For other data, refer to manufacturers literature.



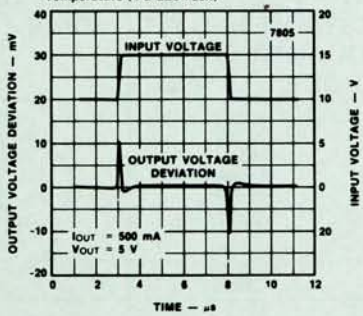
Peak Output Current as a Fuction of Input to Output Differential Voltage



Current Limiting Characteristics 7805



Worst Case Power Dissipation Versus Ambient Temperature (TO-220 Pack)

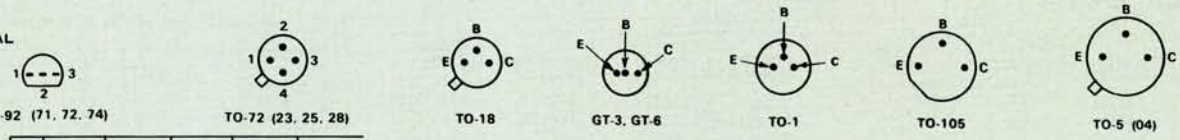


Line Transient Response 7805

SEMICONDUCTOR OUTLINES

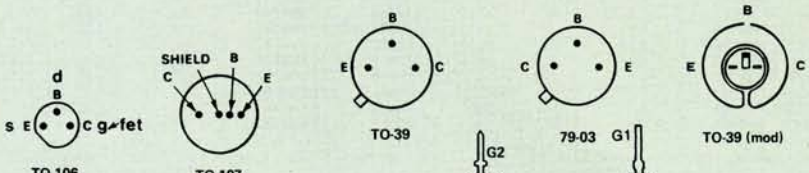
Note: Pin connections may vary with different sources of supply. Check with your dealer if any doubt exists.

SMALL SIGNAL

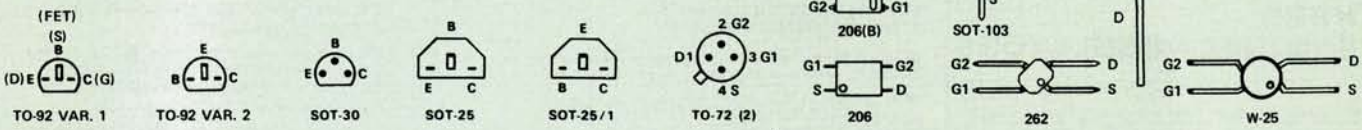


PIN	71		72 (std)		74		76		77	
1	C	G	C	G	B	S	E	D	E	D
2	E	D	B	S	C	G	C	G	B	S
3	B	S	E	D	E	D	B	S	C	G

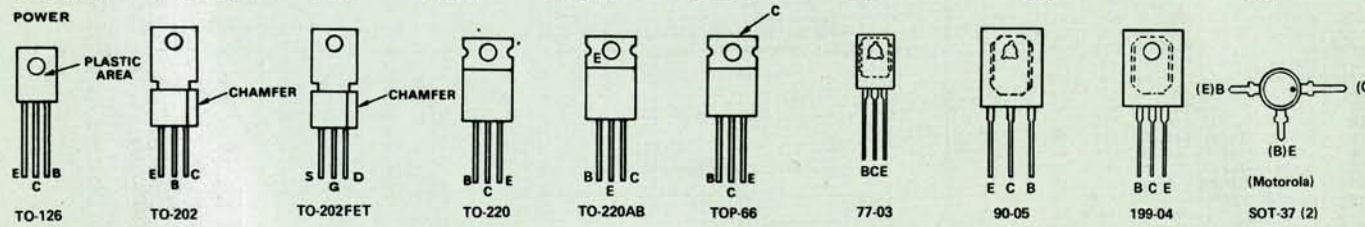
PIN	T(25)	T(28)	FET N(25)	FET P(23)
1	E	B	S	S
2	B	E	D	S
3	C	C	G	D
4	GND	GND	CASE	CASE



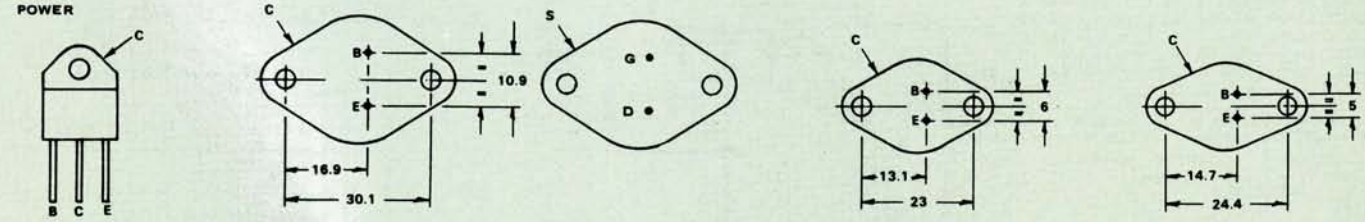
FETS



POWER

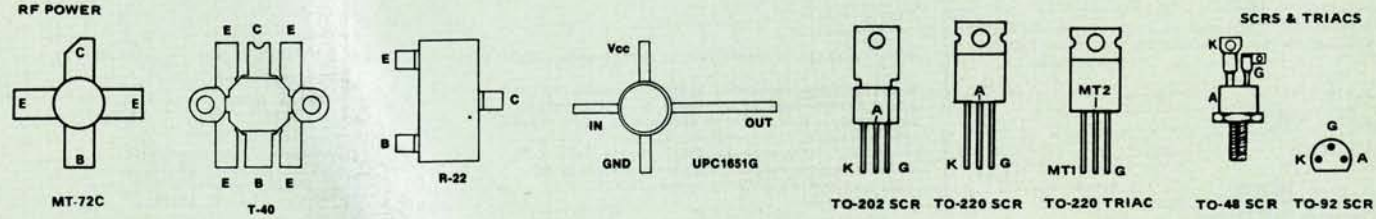


POWER



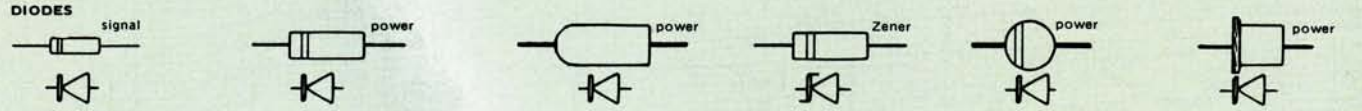
DIMENSIONS IN MILLIMETRES

RF POWER



SCRS & TRIACS

DIODES



BIPOLARS
- E : EMITTER
- B : BASE
- C : COLLECTOR
- NG : NPN GERMANIUM
- PG : PNP GERMANIUM
- NS : NPN SILICON
- PS : PNP SILICON

FETS
- S : SOURCE
- G : GATE
- D : DRAIN
- N/CH : N CHANNEL
- P/CH : P CHANNEL

- G.P. : GENERAL PURPOSE
- S S: : SMALL SIGNAL
- SW : SWITCH
- O/P : OUTPUT

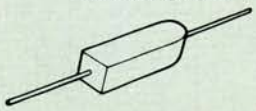
- R.F. : RADIO FREQUENCY
- H.F. : HIGH FREQUENCY
- V.H.F. : VERY HIGH FREQUENCY

ST - 4 ASYMMETRIC TRIGGER DIODE

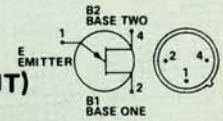
- V_{S1} – 14 - 18V
- V_{S2} – 7 - 9V
- I_{S1} – 80uA
- I_{S2} – 160uA
- V_{F1} – 7 - 10V
- V_{F2} – 1.6 (max)
- I_{OFF1} – 100nA
- I_{OFF2} – 100nA
- P_{AV} – 350mW
- $I_{F(max)}$ – 200mA

BR - 100 DIAC

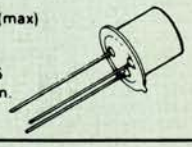
- V_S – 28 - 36V
- $V_{SYM/VRRM}$ – 3V
- $I_{S(max)}$ – 100uA
- ΔV_T – 6V @ 10mA



DS2646 UNIJUNCTION TRANSISTOR (UJT) NEGATIVE BASE

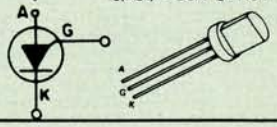


- P_{TOT} – 300mW
- V_{B2-E} – 30V
- V_{B2-B1} – 35V
- $R_{(B-B)O}$ – 9k ohms (max)
- $V_{B1(PK)}$ – 3V
- $I_{E(PK)}$ – 5uA
- η – 0.56 - 0.75
- $I_{(VAL)}$ – 4mA min.



2N6027/D13T1 PROGRAMMABLE UNIJUNCTION TRANSISTOR

- V_{A-K} – 40V (max)
- I_T – 2A (max)
- $I_{(VAL)}$ – 50uA
- $I_{S(max)}$ – 2uA @ 1.5V



SIMPLE DIGITAL CIRCUITS

GATES

SYMBOL	CODE
INPUTS, OUTPUT "AND" GATE	Output is "on" only when all inputs are "on". Output is "off when any or all inputs are "off".
INPUTS, OUTPUT "NAND" GATE	Output is "off" only when all inputs are "on". Output is "on" when any or all inputs are "off".
INPUTS, OUTPUT "NOR" GATE	Output is "on" only when all inputs are "off". Output is "off" when any or all inputs are "on".
INPUTS, OUTPUT "OR" GATE	Output is "off" only when all inputs are "off". Output is "on" when any or all of the inputs are "on".

INVERTERS

SYMBOL	CODE
INPUT, OUTPUT INVERTER	Output is "on" only when the input is "off". Output is "off" only when the input is "on".

FLIP-FLOPS

A flip-flop can be compared with a push button switch connected to two lamps. When the button is pushed and released, one of the lamps will turn "on" and the other "off". If the button is again pushed and released, the lamp that was "off" will now turn "on" and the lamp that was "on" will turn "off". There are many different types of flip-flops, but they all operate basically in the same way. The difference is in the number and type of inputs.

SYMBOL	CODE
OUTPUTS Q, $\overline{Q}$; FLIP-FLOP; INPUT	"Q" output is "on" when "$\overline{Q}$" output is "off". "Q" output is "off" when "$\overline{Q}$" output is "on". Outputs change when the input is turned "off".

LATCH

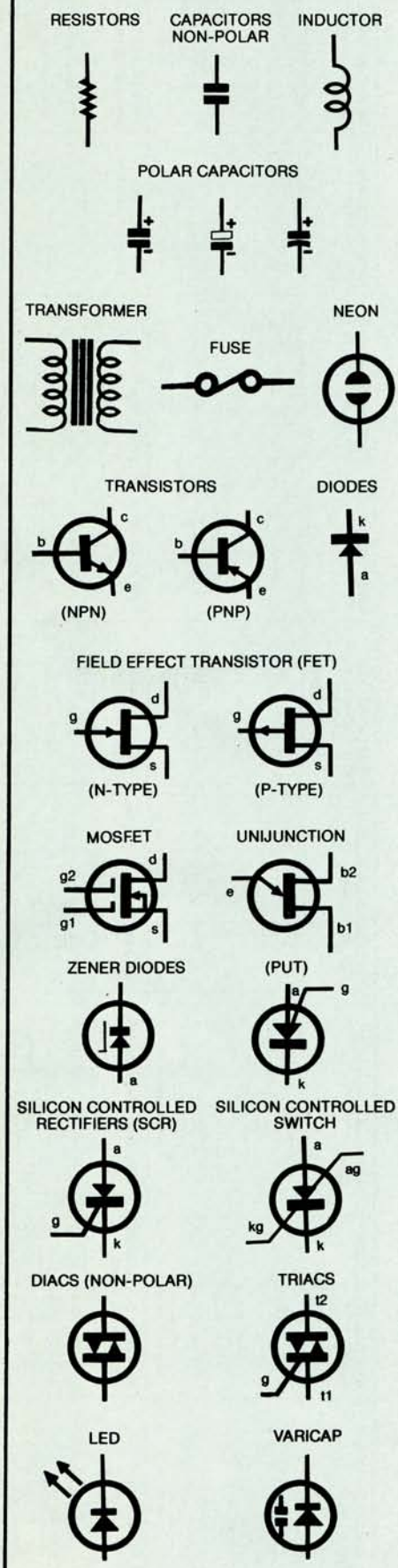
A latch is a flip-flop designed to store information until it is needed. It has an extra latch input. When the latch is turned on, the information on the input will be transferred to the "Q" output. When the latch is turned "off", the information that was on the input at the time the latch was turned off, will be stored on the "Q" output.

SYMBOL	CODE
OUTPUT Q, $\overline{Q}$; LATCH; LATCH INPUTS; INFORMATION	"Q" output will follow the information input. "$\overline{Q}$" output will always be the opposite of the "Q" output.

COUNTERS

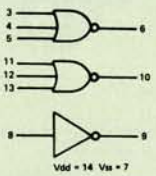
SYMBOL	CODE
OUTPUTS 1 2 4 8; RESET "0"; INPUT	As the input is turned "on" and "off" the count is accumulated on the outputs in either binary or decimal form depending on circuit. Counters are easily cascaded by using the highest output as the next input. When full the counter will automatically reset to zero. To use as a "N" divider the reset pin is connected to the required digit plus one.

COMMON COMPONENT DIAGRAMS

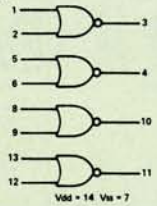


4000 SERIES CMOS PIN CONNECTIONS

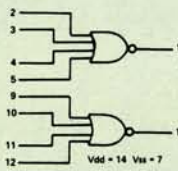
4000 Dual 3-Input NOR Gate with Inverter



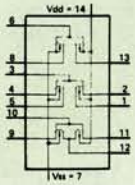
4001 Quad 2-Input NOR Gate



4002 Dual 4-Input NOR Gate

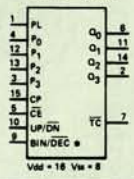


4007 Dual Complementary Pair Plus Inverter

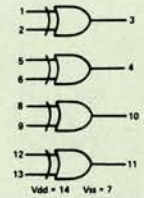


4029 Synchronous 4516 Up/Dwn Counter Counters

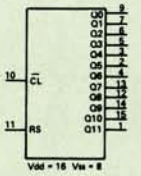
*4516 = Reset



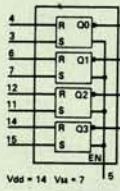
4030 Exclusive OR Gate



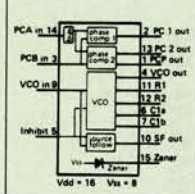
4040 12 Stage Binary Counter



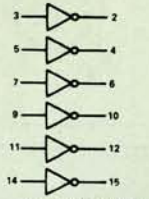
4044 Quad 3 State NAND RS Latch



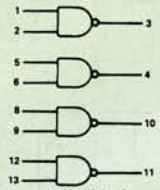
4046 Phase Locked Loop



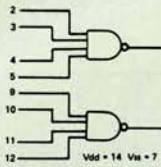
4009 Hex Inverter



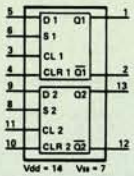
4011 Quad 2-Input NAND 4093 Schmitt Trigger



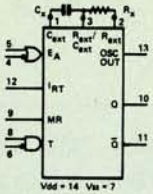
4012 Dual 4-Input NAND Gate



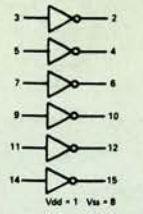
4013 Dual D Type Flip-Flop



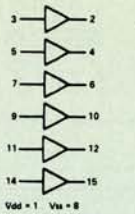
4047 Monostable, Astable Multivibrator



4049 Hex Inverter

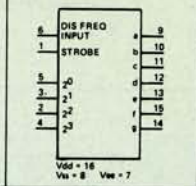


4050 Hex Buffer

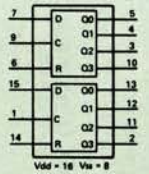


4051 8 Channel Multi/Demultiplexer

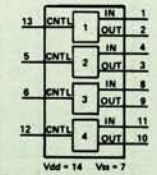
4056 BCD to 7 Seg Decoder/Driver LCD



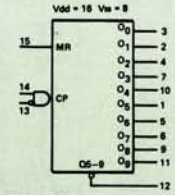
4015 Dual 4 Bit Shift Register



4016 Quad Bi-Lateral Switch 4066

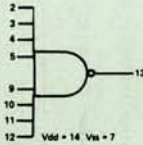


4017 Decade Counter with 10 Outputs

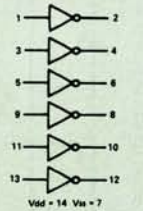


4019 Quad 2-Input Multiplexer

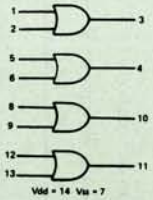
4068 4-Input NAND Gate



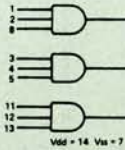
4069 Hex Inverter



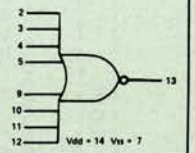
4071 Quad 2-Input OR Gate



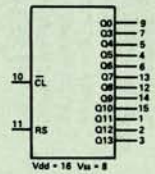
4073 Triple 3-Input AND Gate



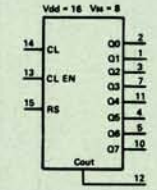
4078 Dual 4-Input NOR Gate



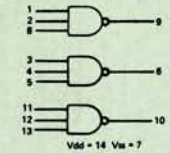
4020 14 Stage Binary Counter



4022 4 Stage Divide by 8 Johnson Counter

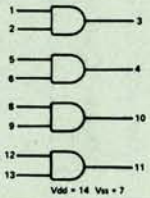


4023 Triple 3-Input NAND Gate

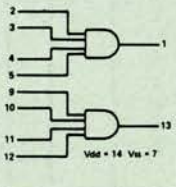


4024 7 Stage Binary Counter

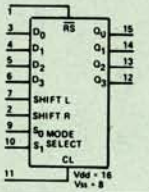
4081 Quad 2-Input AND Gate



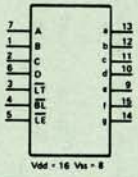
4082 Dual 4-Input AND Gate



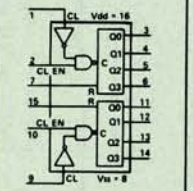
40194 4 Bit Bi-Dir Uni Shift Register



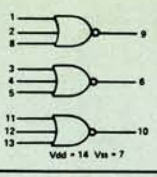
4511 BCD to 7 Seg Latch/Dec/Driver



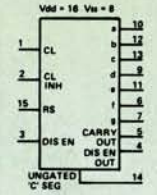
4518 Dual 4 Bit 4520 Binary Counters



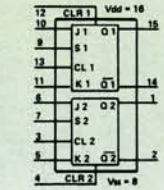
4025 Triple 3-Input NOR Gate



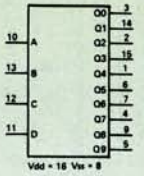
4026 Decade Counter & 7 Segment LED Driver



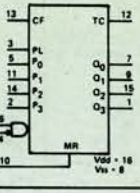
4027 Dual JK Flip-Flop



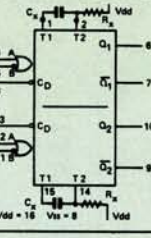
4028 1-of-10 Decoder



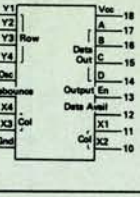
4526 4 Bit Binary Prog Dwn Counter



4528 Dual Monostable



74C922 16 Key Encoder



74C926 4 Digit Counter Counter, 7 Seg LED Decoder/Driver

74C946 4½ Digit Counter, LCD 7 Segment Decoder/Driver

OPERATIONAL AMPLIFIERS HANDY REFERENCE GUIDE

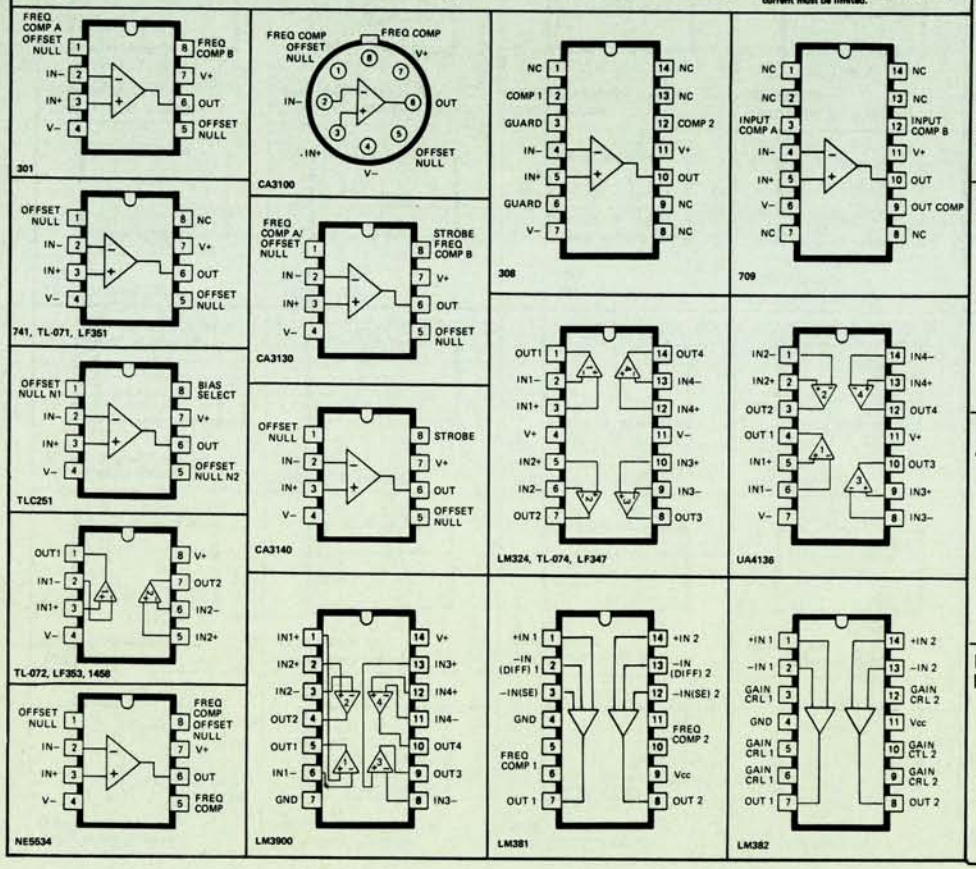
Type	Device	Input Offset Voltage Max (mV)	Input Offset Current Max (nA)	Input Bias Current Max (nA)	Voltage Gain Min (Volts/V)	Bandwidth $A_V = 1$ Typ (MHz)	Slew Rate $A_V = 1$ Typ (V/us)	Output Voltage Swing $R_L = 10$ k (V) Vs = ±15	Supply Voltage Min (V)	Supply Voltage Max (V)	Common Mode Rejection Ratio (dB) Min	Differential Input Voltage (V)	Supply Current $T_A = 25°C$ Max (mA) (Note 1)	Internal Frequency Compen
	SINGLE OP AMPS													
LM301	G.P. Amplifier	10	70	300	15k	1	0.5	±12	±3	±18	±12	±30	3	No
LM308	G.P. Amplifier	10	1.5	10	15k	1	0.3	±13	±2	±18	±14	(Note 2)	0.8	No
LM709	G.P. Amplifier	10	500	1500	15k	1	0.3	±12	±9	±18	±8	±5	6.6	No
LM741	G.P. Amplifier	7.5	300	800	15k	1	0.5	±13	±3	±18	±12	±30	2.8	Yes
TL071	JFET Lo Noise	10	0.2	7	25k	3	13	±12		±18	70	±30	2.5	Yes
LF351	JFET Lo Noise	10	0.1	8	25k	4	13	±12		±18	70	±30	3.4	Yes
TLC251	Prog. Lo Power CMOS	10	0.1	0.15	15k	0.7	0.6	±7.8	±1	±18	77	±18	0.22	Yes
CA3100	Wide band Amp.	5	400	2000	36 dB	38	25	±9		±18	76	±12	10.5	No
CA3130	MOSFET Input	15	0.3	0.5	50k	4	10	±6 (Vs = ±8)		±8	70	±8	15	No
CA3140	MOSFET Input	15	0.3	0.5	20k	4.5	9	±12		±18	70	±8	5.5	Yes
NE5534	Low Noise	5	400	2000	15k	10	6	±12	±3	±22	70	±0.5	8	No
	DUAL OP AMPS													
LM381	Lo Noise			500	160k	15		±12	9 to	40			16	Yes
LM382	Lo Noise			500	100k	15		±12	9 to	40			16	Yes
TL072	JFET Lo Noise	10	0.2	7	25k	3	13	±12		±18	70	±30	5	Yes
LF353	JFET Lo Noise	10	0.1	8	25k	4	13	±12		±18	70	±30	6.5	Yes
	QUAD OP AMPS													
LM324	G.P. Amplifier	9	150	500	15k	1	*	±13	±1.5	±16	65	32	3	Yes
UA4136	G.P. Lo Noise	6	200	500	15k	3	1	±12		±18	70	±30		Yes
TL074	JFET Lo Noise	10	0.2	7	25k	3	13	±12		±18	70	±30	10	Yes
LF347	JFET Lo Noise	10	0.01	8	25k	4	13	±12		±18	70	±30	11	Yes
LM3900	Norton Amp.	*	*	200	2.8k	2.5	20	10	4 (±2)	36 (±18)	*	*	10	Yes

*Not specified

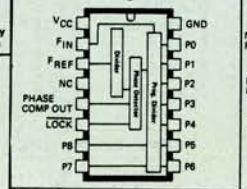
Note 1 : Supply current for all channels of amplifier in the package

Note 2: Inputs have shunt diode protection, current must be limited.

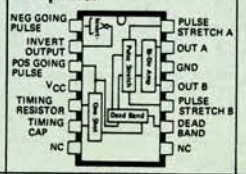
Package and Pin Connections



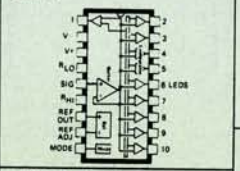
PLL02A Prog PLL Block



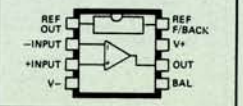
SN76604N RC Servo Amplifier



LM3914 Dot/Bar Display Driver

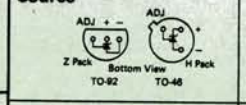


LM10CLN Op Amp & Voltage Reference

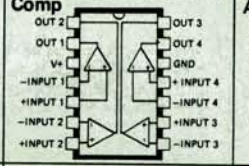


LM335 Precision Temperature Sensor

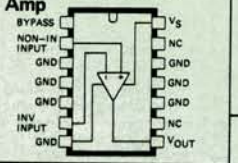
LM336 2.5V Reference Source



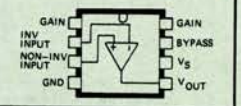
LM339 Low Power Quad Comp



LM380 Audio Power Amp

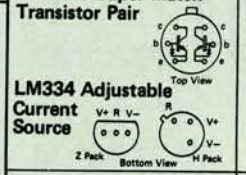


LM386 Low Power Audio Amplifier

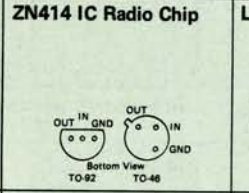


LM394C Super Match Transistor Pair

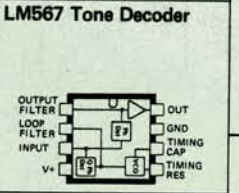
LM334 Adjustable Current Source



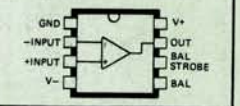
ZN414 IC Radio Chip



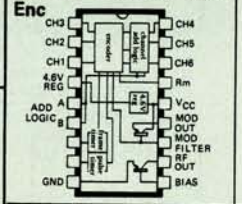
LM567 Tone Decoder



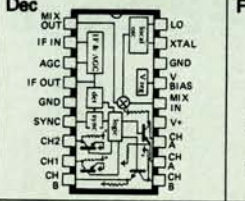
LM311 Voltage Comparator



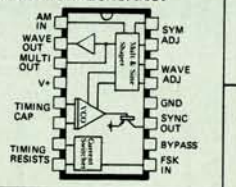
LM1871 RC Transmitter Enc



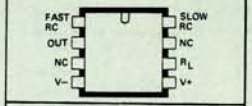
LM1872 RC Receiver Dec



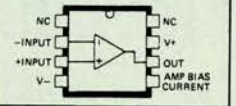
XR2206 Monolithic Function Generator



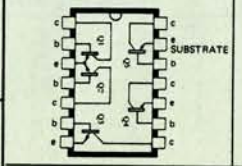
LM3909 LED Flasher Oscillator



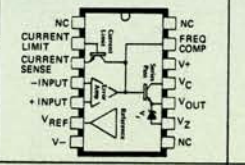
LM3080 Operational Transconductance Amp



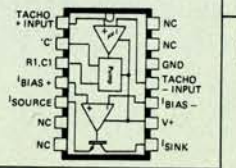
LM3046 Transistor Array



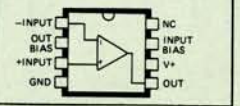
LM723 Adjust Voltage Reg



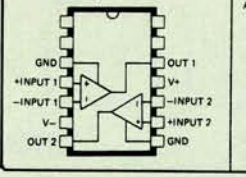
LM2917 Frequency to Voltage Converter



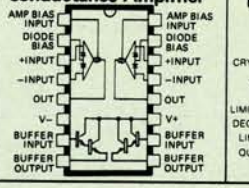
LM13080 Programmable Power Op Amp



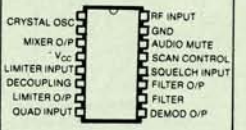
LM319N High Speed Dual Comparator



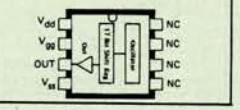
LM13600 Dual Transconductance Amplifier



MC3357 Low Power Narrow Band FM IF

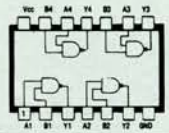


MM5837 Digital Noise Generator

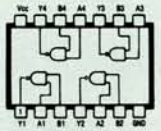


74 SERIES PIN CONNECTIONS

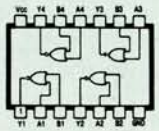
7400 Quad 2-Input NAND Gate



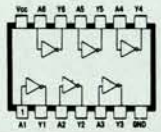
7401 Quad 2-Input NAND, Open Collector



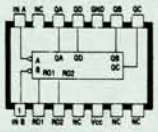
7402 Quad 2-Input NOR Gate



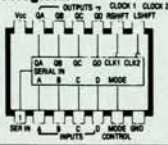
7404 Hex Inverter



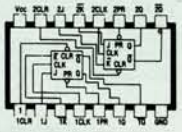
7493 Divide-By-Sixteen Counter



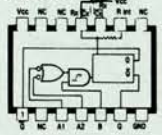
7495 4 Bit Left/Right Shift Register



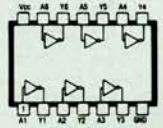
74109 Dual JK Pos Edge Triggered Flip-Flop



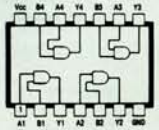
74121 Monostable Multivibrator



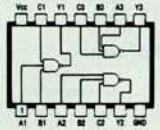
7405 Hex Inverter, Open Collector



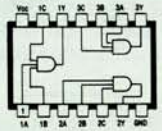
7408 Quad 2-Input AND Gates



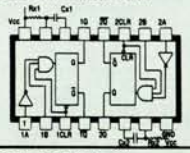
7410 Triple 3-Input NAND Gates



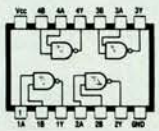
7411 Triple 3-Input AND Gates



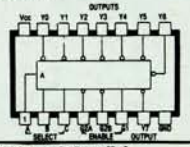
74123 Dual Retriggerable Monostable with Clear



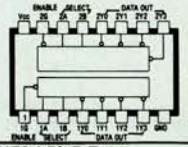
74132 Quad 2-Input NAND Schmitt Trigger



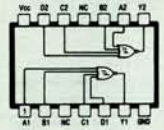
74138 1-of-8 Decoder Multiplexer



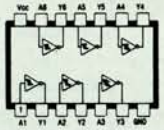
74139 Dual 1-of-4 Decoder



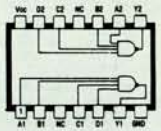
7413 Dual 4-Input NAND Schmitt Trigger



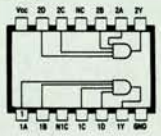
7414 Hex Schmitt Trigger



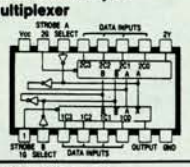
7420 Dual 4-Input NAND Gates



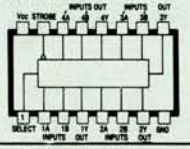
7421 Dual 4-Input AND Gates



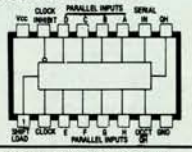
74153 Dual 4-Input Multiplexer



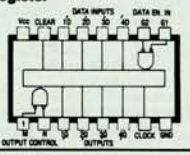
74157 Quad 2-Input Multiplexer



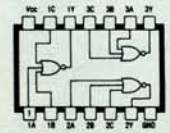
74165 8 Bit Parallel to Serial Converter



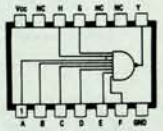
74173 4 Bit D Type Register



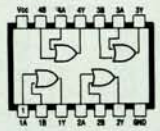
7427 Triple 3-Input NOR Gates



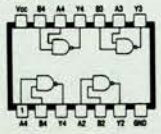
7430 8-Input NAND Gate



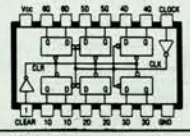
7432 Quad 2-Input OR Gates



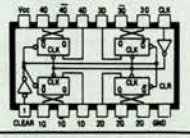
7437 Quad 2-Input NAND Buffer



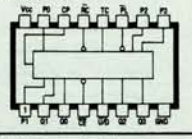
74174 Hex D Type Flip-Flop



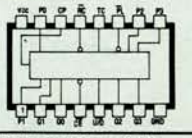
74175 Quad D Type Flip-Flop



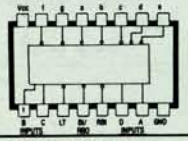
74190 Up/Down Decade Decade Counter



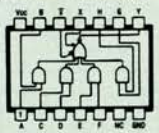
74191 Up/Down Binary Counter



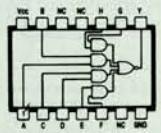
7447 BCD to 7 Segment Decoder/Driver



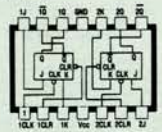
7453 Expandable 4 Wide AND-OR-INVERT Gate



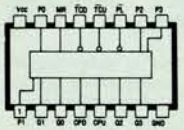
7454 4 Wide AND-OR-INVERT Gate



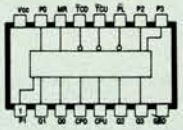
7473 Dual JK Flip-Flop with Clear



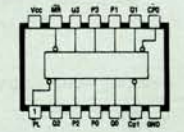
74192 Up/Down Decade Counter, Up/Down Clks



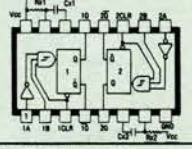
74193 Up/Down Binary Counter, Up/Down Clks



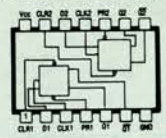
74196 Presettable Decade Counter



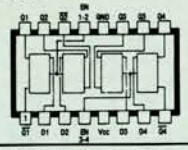
74221 Dual Monostable Multivibrator



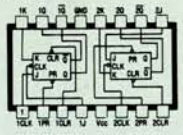
7474 Dual D, Pos Edge Trig F/F, Pre-S & Clear



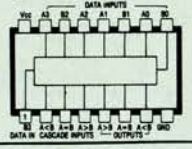
7475 4 Bit Bi-stable Latch



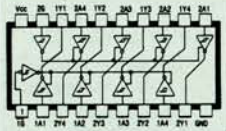
7476 Dual JK Flip-Flop with Pre-S & Clear



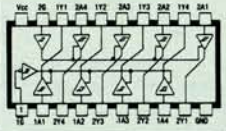
7485 4 Bit Magnitude Comparator



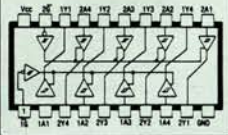
74240 Octal Buffer/Line Driver, 3 State Output



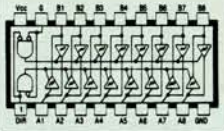
74241 Octal Buffer/Line Driver, 3 State Output



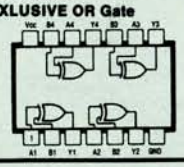
74244 Octal Buffer/Line Driver, 3 State Output



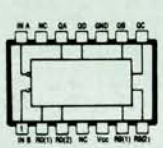
74245 Octal Bus Trans, 3 State Output



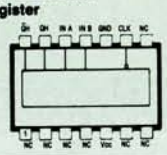
7486 Quad EXLUSIVE OR Gate



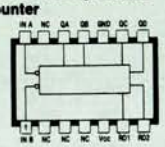
7490 Decade Counter



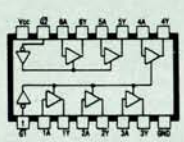
7491 8 Bit Shift Register



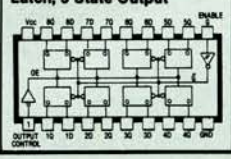
7492 Divide-By-Twelve Counter



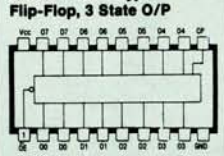
74367 Hex 3 State Buffer



74373 Octal Transparent Latch, 3 State Output



74374 Octal D Type Flip-Flop, 3 State O/P



Please note:

The base connections shown for the 74 series apply to all of the family groups. These include: 74 — 74ALS — 74C — 74F — 74H — 74HC — 74L — 74LS — 74S

CMOS HANDLING PRECAUTIONS

(1) Do not exceed the maximum ratings specified on the data sheet.

(2) All unused device inputs should be connected to Vcc or GND.

(3) All low impedance equipment (pulse generators, etc) should be connected to CMOS inputs only after the CMOS is powered up. Similarly, it should be disconnected before power is turned off.

(4) Contacting pcb tracks connected to CMOS devices can cause as much damage as direct contact with the pins. A limiting resistor should be used when connecting directly to CMOS inputs.

(5) CMOS devices should be stored and transported in materials that are antistatic. They must not be stored in styrofoam, plastic bags or trays, etc.

(6) All CMOS devices should be placed on a grounded bench surface and operators should ground themselves prior to handling devices, since a worker can be statically charged with respect to the bench surface. Wrist straps are strongly recommended.

(7) Nylon or other synthetic materials should not come into contact with CMOS circuits.

(8) When lead straightening or hand soldering is necessary, provide ground straps for the apparatus used and be sure the soldering iron tip is grounded.

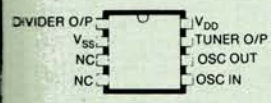
(9) When cleaning pcbs; the brush or spray cleaning should not be used.

(10) Do not insert or remove CMOS devices with power applied. Remember that charged capacitors can represent a power source even though switches are 'off'.

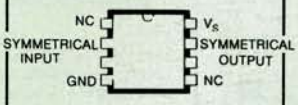
(11) Double check polarity of supplies, test equipment, etc before testing.

(12) Ensure that others handling CMOS are aware of the risk associated with static electricity.

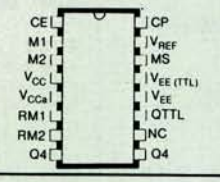
MM5369 17 Stage Oscillator/Divider



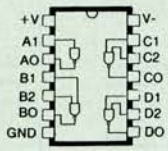
UA664BS Divide by 64 1GHz Prescaler



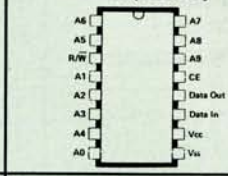
11C90 Divide by 10/11 Prescaler



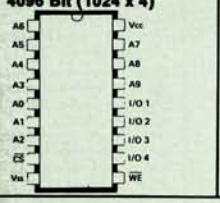
DS1488 Trans. Line Driver/Receiver



2102 Static RAM 1024 Bit (1024 x 1)

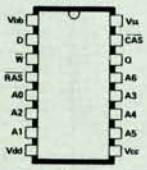


2114 Static RAM 4096 Bit (1024 x 4)

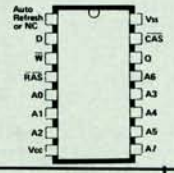


4027 Dynamic RAM 4K x 1

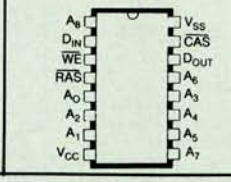
4116 Dynamic RAM 16K x 1



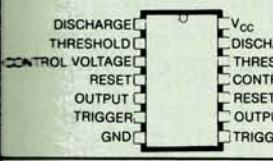
4164 Dynamic RAM 64K x 1



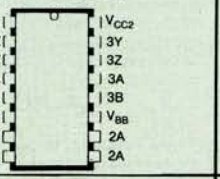
41256 Dynamic RAM 256K x 1



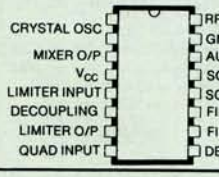
556 Dual Timer



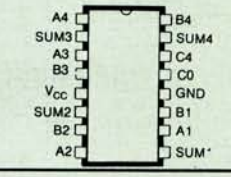
MC10116 ECL Triple Line Receiver



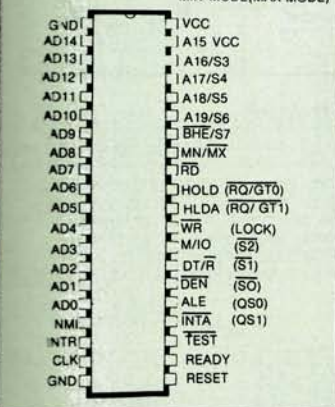
MC3357 Low Power Narrow Band FM IF



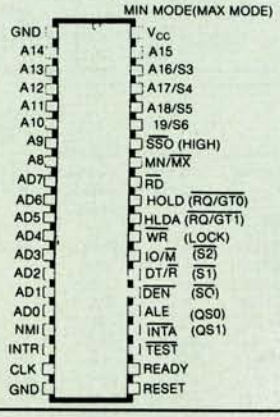
7483 4 bit Adder with fast carry



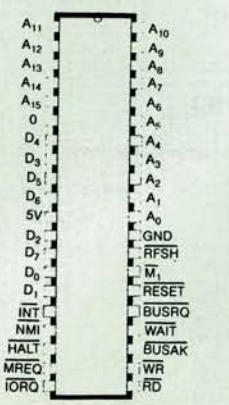
8086 16 bit microprocessor



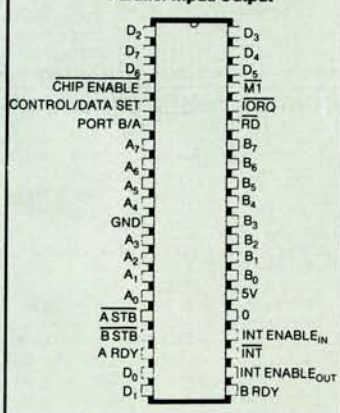
8088 8 bit microprocessor



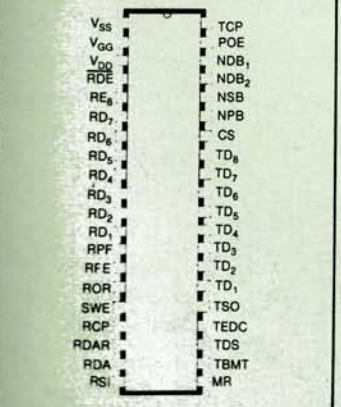
Z80 8 bit CPU



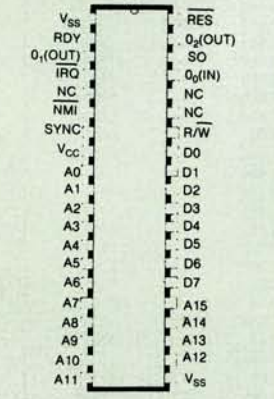
Z80 PIO Parallel Input/Output



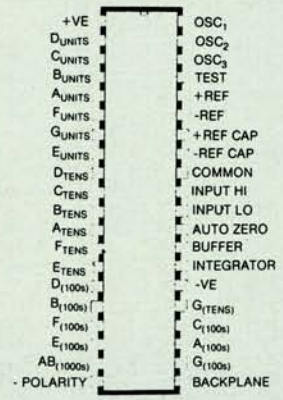
MM5303 Universal Fully Asynchronous Rec/Trans



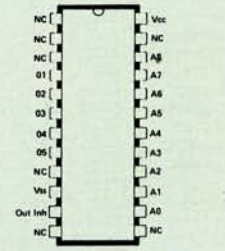
6502 8 bit Microprocessor



ICL7106 3.5 digit CMOS A/D Converter

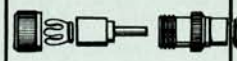


2513 Character Generator 64 x 8 x 5 Organisation



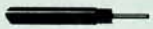
WIRING PLUGS

BELLING-LEE TYPE



STEP 1:
Cut end of cable even and remove 22mm of outer sheath.

STEP 2:
Remove 16mm of braid and dielectric, taking care not to damage centre conductor. Lightly tin conductor.



STEP 3:
Slide cap and collet clamp over cable and slightly squeeze collet in position. Comb braid out and fan back over collet.

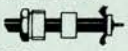
STEP 4:
Solder tip of plug to centre conductor. Do not overheat. Push sub-assembly into body of plug, and screw cap onto body to complete assembly.

BNC TYPE (FEMALE)

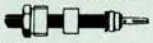
STEP 1:
Cut end of cable even and remove 8mm of outer sheath.

STEP 2:
Slide clamp nut and pressure sleeve over cable, and comb out braid.

STEP 3:
Fold braid back and insert ferrule between braid and dielectric. Trim off excess braid.



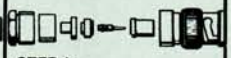
STEP 4:
Remove 5mm of dielectric without damaging centre conductor. Tin conductor.



STEP 5:
Slide rear insulator over conductor hard against rear insulator. Solder contact to conductor.

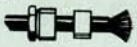
STEP 6:
Fit front insulator in body and push sub-assembly onto body. Slide pressure sleeve into body and screw in the clamp nut to clamp cable.

BNC TYPE (MALE)



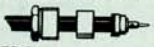
STEP 1:
Cut end of cable even and remove 8mm of outer sheath.

STEP 2:
Slide clamp nut and pressure sleeve over cable, and comb out braid.

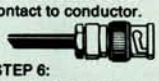


STEP 3:
Fold braid back and insert ferrule between braid and dielectric. Trim off excess braid.

STEP 4:
Remove 5mm of dielectric without damaging centre conductor. Tin conductor.

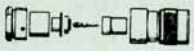


STEP 5:
Slide rear insulator over conductor hard against rear insulator. Solder contact to conductor.



STEP 6:
Fit front insulator in body and push sub-assembly onto body. Slide pressure sleeve into body and screw in the clamp nut to clamp cable.

'N' TYPE



STEP 1:
Cut end of cable even and remove 9mm of outer sheath.

STEP 2:
Slide clamp nut and pressure sleeve over cable, and comb out braid.

STEP 3:
Fold braid back and insert ferrule between braid and dielectric. Trim off excess braid and remove 5.5mm dielectric without damaging inner conductor. Tin end of conductor.

STEP 4:
Slide rear insulator over conductor and position against end of dielectric. Slide contact over conductor until hard against rear insulator. Solder contact to conductor.

STEP 5:
Fit front insulator in body and push sub-assembly into body. Slide pressure sleeve into body and screw in the clamp nut to clamp cable.

UHF TYPE

STEP 1:
Cut end of cable even and remove 27mm of outer sheath.

STEP 2:
Slide coupling ring and adapter onto sheath. Fan braid back over sheath.

STEP 3:
Compress braid around cable and position adapter so braid fans over adapter. Trim off excess braid.

STEP 4:
Remove 12.5mm dielectric and tin conductor. Screw the plug assembly onto cable and solder plug to braid through solder holes.

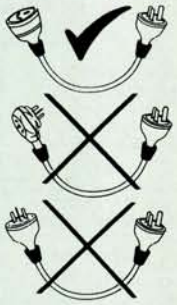
STEP 5:
Solder conductor to centre pin and screw coupling ring onto assembly.

Wiring Mains Plugs & Sockets

More electrocutions are caused through incorrectly wired or faulty mains and extension leads than any other cause. While every hobbyist should know how to wire up a mains plug, it is not a task done every day and many cables ARE wired incorrectly.

Colour Code: Cables throughout the would are now standardising on the colour code recommended by the IEC. However, many cables are still in existence with the former colour code. The ACTIVE (or live) wire is coloured brown (or red in old cables). The NEUTRAL wire is coloured blue (or black in old cables). The EARTH wire is coloured green with a yellow stripe (plain green in old cables).

Wiring the cable: Following the instructions with the plug and socket. The diagrams below, reproduced by courtesy of HPM, show the right and wrong ways to wire an extension lead. It is essential these are followed exactly.

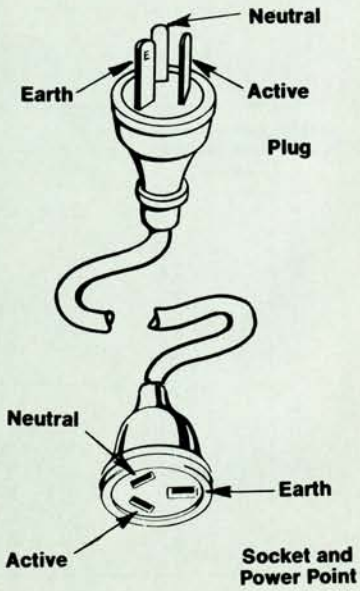


COAXIAL CABLE SPECIFICATIONS

Cable No	Nominal Imp Zo(j)	Cable Outside Diam (mm)	Approx. Attenuat. (dB/100ft) 1MHz	10MHz	100MHz	1000MHz	3000MHz	Velocity Factor	Capacitance (pF/100ft)	Maximum Operating Voltage (rms)
RG-5/U	52.5	8.45	0.21	0.77	2.9	11.5	22.0	0.659	28.5	3000
RG-5B/U	50.0	8.45	0.16	0.66	2.4	8.8	16.7	0.659	29.5	3000
RG-6A/U	75.0	8.45	0.21	0.78	2.9	11.2	21.0	0.659	20.0	2700
RG-8A/U	50.0	10.3	0.16	0.55	2.0	8.0	16.5	0.659	30.5	4000
RG-9/U	51.0	10.66	0.16	0.57	2.0	7.3	15.5	0.659	30.0	4000
RG-9B/U	50.0	10.8	0.175	0.61	2.1	9.0	18.0	0.659	30.5	4000
RG-10A/U	50.0	12.06	0.16	0.55	2.0	8.0	16.5	0.659	30.5	4000
RG-11A/U	75.0	10.3	0.18	0.7	2.3	7.8	16.5	0.66	20.5	5000
RG-12A/U	75.0	12.06	0.18	0.66	2.3	8.0	16.5	0.659	20.5	4000
RG-13A/U	75.0	10.8	0.18	0.66	2.3	8.0	16.5	0.659	20.5	4000
RG-14A/U	50.0	13.85	0.12	0.41	1.4	.5	12.0	0.659	30.0	5500
RG-16/U	52.0	16	0.1	0.4	1.2	6.7	16.0	0.67	29.5	6000
RG-17A/U	50.0	22.1	0.066	0.225	0.8	3.4	8.5	0.659	30.0	11000
RG-18A/U	50.0	24	0.066	0.225	0.8	3.4	8.5	0.659	30.5	11000
RG-19A/U	50.0	28.4	0.04	0.17	0.68	3	7.7	0.659	30.5	14000
RG-20A/U	50.0	30.35	0.04	0.17	0.68	3.5	7.7	0.659	30.5	14000
RG-21A/U	50.0	4.7	1.4	4.4	13.0	43.0	85.0	0.659	30.0	2700
RG-29/U	53.5	4.6	0.33	1.2	4.4	16.0	30.0	0.659	28.5	1900
RG-34A/U	75.0	16	0.065	0.29	1.3	3.0	12.5	0.659	20.5	5200
RG-34B/U	75.0	16		0.3	1.4	5.8		0.66	21.5	6500
RG-35A/U	75.0	24	0.07	0.235	0.85	3.5	8.6	0.659	20.5	10000
RG-54A/U	58.0	6.35	0.18	0.74	3.1	11.5	21.5	0.659	26.5	3000
RG-55/U	53.5	5.2	0.36	1.3	4.8	17.0	32.0	0.659	28.5	1900
RG-55A/U	50.0	5.4	0.36	1.3	4.8	17.0	32.0	0.659	29.5	1900
RG-58/U	53.5	4.95	0.33	1.25	4.65	17.5	37.5	0.659	28.5	1900
RG-58C/U	50.0	4.95	0.42	1.4	4.9	24.0	45.0	0.659	30.0	1900
RG-59A/U	75.0	6.15	0.34	1.10	3.40	12.0	26.0	0.659	20.5	2300
RG-59B/U	75.0	6.15		1.10	3.40	12.0	-	0.66	21.0	2300
RG-62A/U	93.0	6.15	0.25	0.85	2.70	8.6	18	0.84	13.5	750
RG-74A/U	50.0	15.6	0.10	0.38	1.5	6.0	.11.5	0.659	30.0	5500
RG-83/U	35.0	10.3	0.23	0.8	2.8	9.6	24.0	0.66	44.0	2000
RG-178/U	50.0	2.0	2.6	5.6	13.8	46	76	0.665	27.9	-
RG-213/U	50.0	10.3	0.16	0.6	1.9	8.0	-	0.66	29.5	5000
RG-218/U	50.0	22.1	0.066	0.2	1.0	4.4	-	0.66	29.5	11000
RG-220/U	50.0	28.4	0.04	0.2	0.7	3.6	-	0.66	29.5	14000

Get it right!

Note the correct locations of the active, neutral and earth pins — a power outlet is exactly the same as an extension cord socket. (In almost all cases you will find a power point or socket is labelled A, N & E. Power points may also be colour coded, but usually they are marked with the old [red/black/green] colours.)



ASCII CODES

DEC.	HEX.	CHAR.	DEC.	HEX.	CHAR.	DEC.	HEX.	CHAR.
000	00	NUL	044	2C	,	087	57	W
001	01	SOH	045	2D	-	088	58	X
002	01	STX	046	2E	.	089	59	Y
003	03	ETX	047	2F	/	090	5A	Z
004	04	EOT	048	30	0	091	5B	[
005	05	ENQ	049	31	1	092	5C	\
006	06	ACK	050	32	2	093	5D	]
007	07	BEL	051	33	3	094	5E	^
008	08	BS	052	34	4	095	5F	<
009	09	HT	053	35	5	096	60	'
010	0A	LF	054	36	6	097	61	a
011	OB	VT	055	37	7	098	62	b
012	OC	FF	056	38	8	099	63	c
013	OD	CR	057	39	9	100	64	d
014	OE	SI	058	3A	:	101	65	e
016	10	DLE	059	3B	;	102	66	f
017	11	DC1	060	3C	<	103	67	g
018	12	DC2	061	3D	=	104	68	h
019	13	DC3	062	3E	>	105	69	i
020	14	DC4	063	3F	?	106	6A	j
021	15	NAk	064	40	@	107	6B	k
022	16	SYN	065	41	A	108	6C	l
023	17	ETB	066	42	B	109	6D	m
024	18	CAN	067	43	C	110	6E	n
025	19	EM	068	44	D	111	6F	o
026	1A	SUB	069	45	E	112	70	p
027	1B	ESC	070	46	F	113	71	q
028	1C	FS	071	47	G	114	72	r
029	1D	GS	072	48	H	115	73	s
030	1E	RS	073	49	I	116	74	t
031	1F	US	074	4A	J	117	75	u
032	20	SPACE	075	4B	K	118	76	v
033	21	!	076	4C	L	119	77	w
034	22	"	077	4D	M	120	78	x
035	23	#	078	4E	N	121	79	y
036	24	$	079	4F	O	122	7A	z
037	25	%	080	50	P	123	7B	{
038	26	&	081	51	Q	124	7C	|
039	27	'	082	52	R	125	7D	}
040	28	(	083	53	S	126	7E	~
041	29	)	084	54	T	127	7F	DELETE (Rubout)
042	2A	*	085	55	U			
043	2B	+	086	56	V			

STANDARD ASCII ABBREVIATIONS

ACK = Acknowledge
BELL = Bell
BS = Backspace
CAN = Cancel
CR = Carriage Return
DC1 = Direct Control 1
DC2 = Direct Control 2
DC3 = Direct Control 3
DC4 = Direct Control 4
DLE = Data Link Escape
EM = End of Medium
ENQ = Enquiry
EOT = End of transmission
ESC = Escape
ETB = End Transmission Block
ETX = End Text
FF = Form Feed
FS = Form Separator
GS = Group Separator
HT = Horizontal Tab
LF = Line Feed
NAK = Negative Acknowledge
NUL = Null
RS = Record Separator
SI = Shift In
SO = Shift Out
SOH = Start of Heading
STX = Start Text
SUB = Substitute
SYN = Synchronous Idle
US = Unit Separator
VT = Vertical Tab

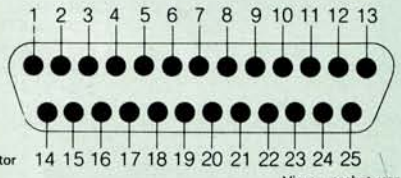
THE RS-232C INTERFACE

The basic RS-232C electrical specifications

Communication rate	0-20,000 bits per second
Driver output voltage levels, maximum no load.	−25V logic 1, +25V logic 0
Driver output voltage ranges for loads between 3k and 7k ohms.	logic 1: −15V (7k) and −5V (3k) logic 0: +15V (7k) and +5V (3k)
Driver output current, short circuit.	500mA maximum
Driver output impedance with power off.	300 ohms minimum
Maximum driver output slew rate.	30 volts per microsecond
Receiver input resistance.	7k ohms maximum, 3k ohms minimum
Effective receiver input capacitance.	2500pF maximum
Maximum receiver input voltage range.	−25V to +25V

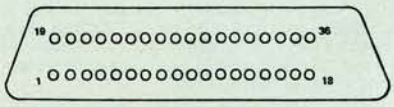
RS232C CABLE PLUG CONNECTIONS

Pin No	Signal
1.	Protective Ground
2.	Transmit Data
3.	Received Data
4.	Request to Send
5.	Clear to Send
6.	Data Set Ready
7.	Signal Ground
8.	Received Line Signal Detector
20.	Data Terminal Ready



View – socket rear

STANDARD CENTRONICS PRINTER PLUG CONNECTIONS



View – plug rear

Pin No	Signal	Pin No	Signal
19.	Signal Ground		
2.	Data Bit 0	7.	Data Bit 5
3.	Data Bit 1	8.	Data Bit 6
4.	Data Bit 2	1.	Data Strobe
5.	Data Bit 3	10.	Data Acknowledge
6.	Data Bit 4	11.	Input Busy Ready

HEXADECIMAL CONSTANTS

HEX-TO-DECIMAL CONVERSION

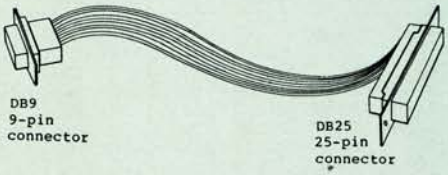
For each hexadecimal digit, go down the hex code column at the left until you find the right digit. Then move across to the right column. When all four digits have been converted into their decimal equivalents I, II, III, IV, add these all together to get the final answer, i.e.

DECIMAL VALUE = IV + III + II + I

HEX CODE	Most Significant Bytes IV	III	Least Significant Bytes II	I
0	0	0	0	0
1	4096	256	16	1
2	8192	512	32	2
3	12288	768	48	3
4	16384	1024	64	4
5	20480	1280	80	5
6	24576	1536	96	6
7	28672	1792	112	7
8	32768	2048	128	8
9	36864	2304	144	9
A	40960	2560	160	10
B	45056	2816	176	11
C	49152	3072	192	12
D	53348	3328	208	13
E	57344	3584	224	14
F	61440	3840	240	15

ONE BYTE POSITIVE NUMBERS				ONE BYTE NEGATIVE NUMBERS			
0 00	40 28	84 54			−40 D8		−84 AC
1 01	41 29	85 55			−41 D7		−85 AB
2 02	42 2A	86 56			−42 D6		−86 AA
3 03	43 2B	87 57			−43 D5		−87 A9
4 04	44 2C	88 58			−44 D4		−88 A8
5 05	45 2D	89 59		−1 FF	−45 D3		−89 A7
6 06	46 2E	90 5A		−2 FE	−46 D2		−90 A6
7 07	47 2F	91 5B		−3 FD	−47 D1		−91 A5
8 08	48 30	92 5C		−4 FC	−48 D0		−92 A4
9 09	49 31	93 5D		−5 FB	−49 CF		−93 A3
10 0A	50 32	94 5E		−6 FA	−50 CE		−94 A2
11 0B	51 33	95 5F		−7 F9	−51 CD		−95 A1
12 0C	52 34	96 60		−8 F8	−52 CC		−96 A0
13 0D	53 35	97 61		−9 F7	−53 CB		−97 9F
14 0E	54 36	98 62		−10 F6	−54 CA		−98 9E
15 0F	55 37	99 63		−11 F5	−55 C9		−99 9D
16 10	56 38	100 64		−12 F4	−56 C8		−100 9C
17 11	57 39	101 65		−13 F3	−57 C7		−101 9B
18 12	58 3A	102 66		−14 F2	−58 C6		−102 9A
19 13	59 3B	103 67		−15 F1	−59 C5		−103 99
20 14	60 3C	104 68		−16 F0	−60 C4		−104 98
21 15	61 3D	105 69		−17 EF	−61 C3		−105 97
22 16	62 3E	106 6A		−18 EE	−62 C2		−106 96
23 17	63 3F	107 6B		−19 ED	−63 C1		−107 95
24 18	64 40	108 6C		−20 EC	−64 C0		−108 94
25 19	65 41	109 6D		−21 EB	−65 BF		−109 93
26 1A	66 42	110 6E		−22 EA	−66 BE		−110 92
27 1B	67 43	111 6F		−23 E9	−67 BD		−111 91
28 1C	68 44	112 70		−24 E8	−68 BC		−112 90
29 1D	69 45	113 71		−25 E7	−69 BB		−113 8F
30 1E	70 46	114 72		−26 E6	−70 BA		−114 8E
31 1F	71 47	115 73		−27 E5	−71 B9		−115 8D
32 20	72 48	116 74		−28 E4	−72 B8		−116 8C
33 21	73 49	117 75		−29 E3	−73 B7		−117 8B
34 22	74 4A	118 76		−30 E2	−74 B6		−118 8A
35 23	75 4B	119 77		−31 E1	−75 B5		−119 89
36 24	76 4C	120 78		−32 E0	−76 B4		−120 88
37 25	77 4D	121 79		−33 DF	−77 B3		−121 87
38 26	78 4E	122 7A		−34 DE	−78 B2		−122 86
39 27	79 4F	123 7B		−35 DD	−79 B1		−123 85
	80 50	124 7C		−36 DC	−80 B0		−124 84
	81 51	125 7D		−37 DB			−125 83
	82 52	126 7E		−38 DA	−81 AF		−126 82
	83 53	127 7F		−39 D9	−82 AE		−127 81
					−83 AD		−128 80

9 PIN to 25 PIN RS232 CONVERSION



	Pin No.
DB9	1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9
DB25	8 : 3 : 2 : 20: 7 : 6 : 4 : 5 : 22

WIRE GAUGES AND WINDING DATA

This table presents the nominal diameter and resistance (to four significant figures) of bare copper wire in various gauges. The gauges are the Brown and Sharpe gauge (B&S, also known as the American Wire Gauge AWG), the Standard Wire Gauge (SWG), and the metric gauge.

The data is given in both imperial and metric units. The diameter in the imperial units is expressed in mils, a mil being 1/1000in.

The resistance would be within plus or minus 2% at 20°C but varies with temperature. The resistance changes approximately 0.4% for each °C change in temperature, increased temperature giving increased resistance.

B&S GAUGES	SWG	Metric mm	Diam. mils	Ohms per 1,000ft	Diam. mm	Ohms per km
—	—	4.500	177.2	0.3304	4.500	1.084
—	7	—	176.0	0.3348	4.470	1.098
6	—	—	162.0	0.3951	4.116	1.296
—	8	—	160.0	0.4051	4.064	1.329
—	—	*4.000	157.5	0.4182	4.000	1.372
7	—	—	144.3	0.4982	3.666	1.635
—	9	—	144.0	0.5001	3.658	1.641
—	—	3.550	139.7	0.5310	3.550	1.742
8	—	—	128.5	0.6262	3.265	2.061
—	10	—	128.0	0.6330	3.251	2.077
—	—	*3.149	124.0	0.6740	3.149	2.212
—	11	—	116.0	0.7707	2.946	2.529
9	—	—	114.4	0.7921	2.906	2.599
—	—	2.800	110.2	0.8534	2.800	2.800
—	12	—	104.0	0.9588	2.642	4.146
10	—	—	101.9	0.9989	2.589	3.277
—	—	*2.500	98.42	1.070	2.500	3.512
—	13	—	92.00	1.225	2.337	4.020
11	—	—	90.74	1.260	2.305	4.134
—	—	2.240	88.18	1.333	2.240	4.375
12	—	—	80.81	1.588	2.053	5.210
—	14	—	80.00	1.658	2.032	5.440
—	—	*2.000	78.74	1.673	2.000	5.488
—	15	—	72.00	2.001	1.829	6.563
13	—	—	71.96	2.003	1.828	6.572
—	—	1.000	70.87	2.065	1.800	6.775
14	—	—	64.08	2.525	1.628	8.284
—	16	—	64.00	2.532	1.626	8.307
—	—	*1.600	62.99	2.614	1.600	8.575
15	—	—	57.07	3.184	1.450	10.47
—	17	—	56.00	3.307	1.422	10.85
—	—	1.400	55.12	3.414	1.400	11.20
16	—	—	50.82	4.016	1.291	13.18
—	—	*1.250	49.21	4.282	1.250	14.05
—	18	—	48.00	4.501	1.219	14.77
17	—	—	45.26	5.064	1.150	16.61
—	—	1.120	44.09	5.333	1.120	17.50
18	—	—	40.30	6.385	1.024	20.95
—	19	—	40.00	6.482	1.016	21.27
—	—	*1.000	39.37	6.691	1.000	21.95
—	20	—	36.00	8.002	0.9144	26.25
19	—	—	35.89	8.051	0.9119	26.41
—	—	0.9000	35.51	8.222	0.9000	27.10
—	21	—	32.00	10.13	0.8128	33.23
20	—	—	31.96	10.15	0.8120	33.30
—	—	*0.8000	31.50	10.45	0.8000	34.30
21	—	—	28.46	12.80	0.7231	41.99
—	22	—	28.00	13.23	0.7112	43.40
—	—	0.7100	27.95	13.27	0.7100	43.55
22	—	—	25.35	16.14	0.6440	52.95
—	—	*0.6300	24.80	16.85	0.6300	55.31
—	23	—	24.00	18.00	0.6096	59.07
23	—	—	22.57	20.36	0.5734	66.80
—	—	0.5600	22.04	21.33	0.5600	70.00
—	24	—	22.00	21.43	0.5588	70.30
24	—	—	20.10	25.67	0.5107	84.22
—	25	—	20.00	25.93	0.5080	85.06
—	—	*0.5000	19.69	26.76	0.5000	87.81
—	26	—	18.00	32.01	0.4572	105.0
25	—	—	17.90	32.37	0.4548	106.2
—	—	0.4500	17.72	33.04	0.4500	108.4
—	27	—	16.40	38.56	0.4162	126.5
26	—	—	15.94	40.81	0.4050	133.9
—	—	*0.4000	15.75	41.82	0.4000	137.2
—	28	—	14.80	47.35	0.3759	155.3
27	—	—	14.20	51.47	0.3608	168.9
—	—	0.3550	13.97	53.10	0.3550	174.2
—	29	—	13.60	56.07	0.3454	184.0
28	—	—	12.64	64.90	0.3211	212.9
—	—	*0.3150	12.40	67.45	0.3150	221.2
—	30	—	12.40	67.45	0.3150	221.2
—	31	—	11.60	77.07	0.2946	252.9
29	—	—	11.26	81.83	0.2861	268.5
—	—	0.2800	11.02	85.34	0.2800	280.0
—	32	—	10.80	88.91	0.2743	291.7
30	—	—	10.03	103.2	0.2548	338.6
—	33	—	10.00	103.7	0.2540	340.2
—	—	*0.2500	9.842	107.0	0.2500	351.2
—	34	—	9.200	122.5	0.2337	402.0
31	—	—	8.928	130.1	0.2268	426.8
—	—	0.2240	8.819	133.3	0.2240	437.5
—	35	—	8.400	147.0	0.2134	482.2
32	—	—	7.950	164.1	0.2020	538.4
—	—	*0.2000	7.874	167.3	0.2000	548.8
—	36	—	7.600	179.5	0.1930	589.1
—	—	0.1800	7.087	206.5	0.1800	677.5
33	—	—	7.080	206.9	0.1799	678.8
—	37	—	6.800	224.3	0.1727	735.8
34	—	—	6.305	260.9	0.1602	856.0
—	—	*0.1600	6.299	261.4	0.1600	857.5
—	38	—	6.000	288.1	0.1524	945.1
35	—	—	5.615	329.0	0.1427	1079
—	—	0.1400	5.512	314.4	0.1400	1120
—	39	—	5.200	383.5	0.1321	1258
36	—	—	5.000	414.8	0.1270	1361
—	—	*0.1250	4.921	428.2	0.1250	1405
—	40	—	4.800	450.1	0.1219	1477
37	—	—	4.453	523.1	0.1131	1716
—	—	0.1120	4.409	533.3	0.112	1750
—	41	—	4.400	535.7	0.1118	1757
—	42	—	4.000	648.2	0.1016	2127
38	—	—	3.965	659.6	0.1007	2164
—	—	*0.1000	3.937	669.1	0.1000	2195
—	43	—	3.600	800.2	.09144	2625
—	—	0.0900	3.551	822.2	.0900	2710
39	—	—	3.531	831.8	.08971	2729
—	44	—	3.200	1013	.08128	3323
—	—	*0.0800	3.150	1045	.0800	3430
40	—	—	3.145	1049	.07990	3442
41	—	—	2.801	1323	.07115	4341
—	—	0.0710	2.795	1327	.0710	4355
42	—	—	2.494	1669	.06336	5476
—	—	*0.0630	2.480	1685	.0630	5531
—	46	—	2.400	1800	.06096	5907
43	—	—	2.221	2104	.05643	6903
—	—	0.0560	2.204	2133	.0560	7000
—	47	—	2.000	2593	.05080	8506
44	—	—	1.978	2654	.05025	8707
—	—	*0.0500	1.969	2676	.0500	8781

*First preference values

WINDING DETAILS

The accompanying table allows easy comparison of the different standards, permitting a near equivalent to be selected if coil winding data (for example) specifies a gauge which is not readily available. If 38 B&S were specified for a coil, it can be seen that either 42 SWG or 0.1 mm metric has approximately the same diameter and could therefore be substituted.

B&S No.	Turns per inch Enamelled	SWG No.	Turns per inch Enamelled	Diam. mm.	Turns per cm Enamelled
8	7.65	10	7.63	4.500	2.158
9	8.58	11	8.33	4.000	2.423
10	9.61	12	9.26	3.550	2.720
11	10.7	13	10.42	3.150	3.060
12	12.0	14	11.90	2.800	3.440
13	13.5	15	13.25	2.500	3.840
14	15.1	16	14.81	2.240	4.280
15	16.9	17	16.95	2.000	4.780
16	18.9	18	19.72	1.800	5.290
17	21.2	19	23.47	1.600	5.940
18	23.7	20	25.97	1.400	6.760
19	26.5	21	29.15	1.250	7.540
20	29.5	22	33.33	1.120	8.390
21	33.1	23	38.91	1.000	9.360
22	37.0	24	42.37	0.900	10.360
23	41.4	25	46.51	0.800	11.610
24	46.5	26	51.55	0.710	13.030
25	52.0	27	56.60	0.630	14.620
26	58.4	28	62.50	0.560	18.240
27	65.3	29	67.57	0.500	20.200
28	73.5	30	74.63	0.450	22.620
29	81.9	31	79.37	0.400	25.300
30	92.5	32	85.47	0.355	28.400
31	103	33	91.74	0.315	31.700
32	114	34	100.0	0.280	35.200
33	129	35	109.9	0.250	39.000
34	144	36	120.5	0.224	43.500
35	161	37	135.1	0.200	47.800
36	181	38	151.5	0.180	53.500
37	204	39	175.4	0.160	60.200
38	227	40	188.7	0.140	67.100
39	256	41	208.3	0.125	74.600
40	285	42	227.3	0.112	82.600
(41)	327	43	256.4	0.100	
(42)	378	44	285.7		
(43)	421	45	322.6		
(44)	471	46	377.4		
(45)	523	47	444.4		
(46)	581	48	—		

In the event that the precise gauge of an available wire is not known, and no micrometer is available, it can be determined quite easily with reasonable accuracy. Wind some of the wire on a small mandrel, such as a pencil, and note the number of turns per unit length. The gauge can now be determined from the tables.

FREQUENCY – WAVELENGTH CONVERSION

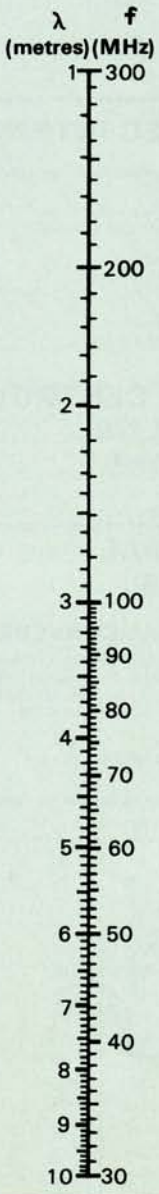
This chart gives the basic conversion from metres to MHz in the range 1–10m and 30–300MHz.

FOR WAVELENGTHS

10m to 100m DIVIDE MHz by 10
100m to 1,000m DIVIDE MHz by 100
1,000m to 10km Answer is in kHz.

FOR FREQUENCIES

30kHz to 300kHz MULTIPLY metres by 1,000
300kHz to 3MHz MULTIPLY metres by 100
3MHz to 30MHz MULTIPLY metres by 10
300 MHz to 3,000 MHz DIVIDE metres by 10

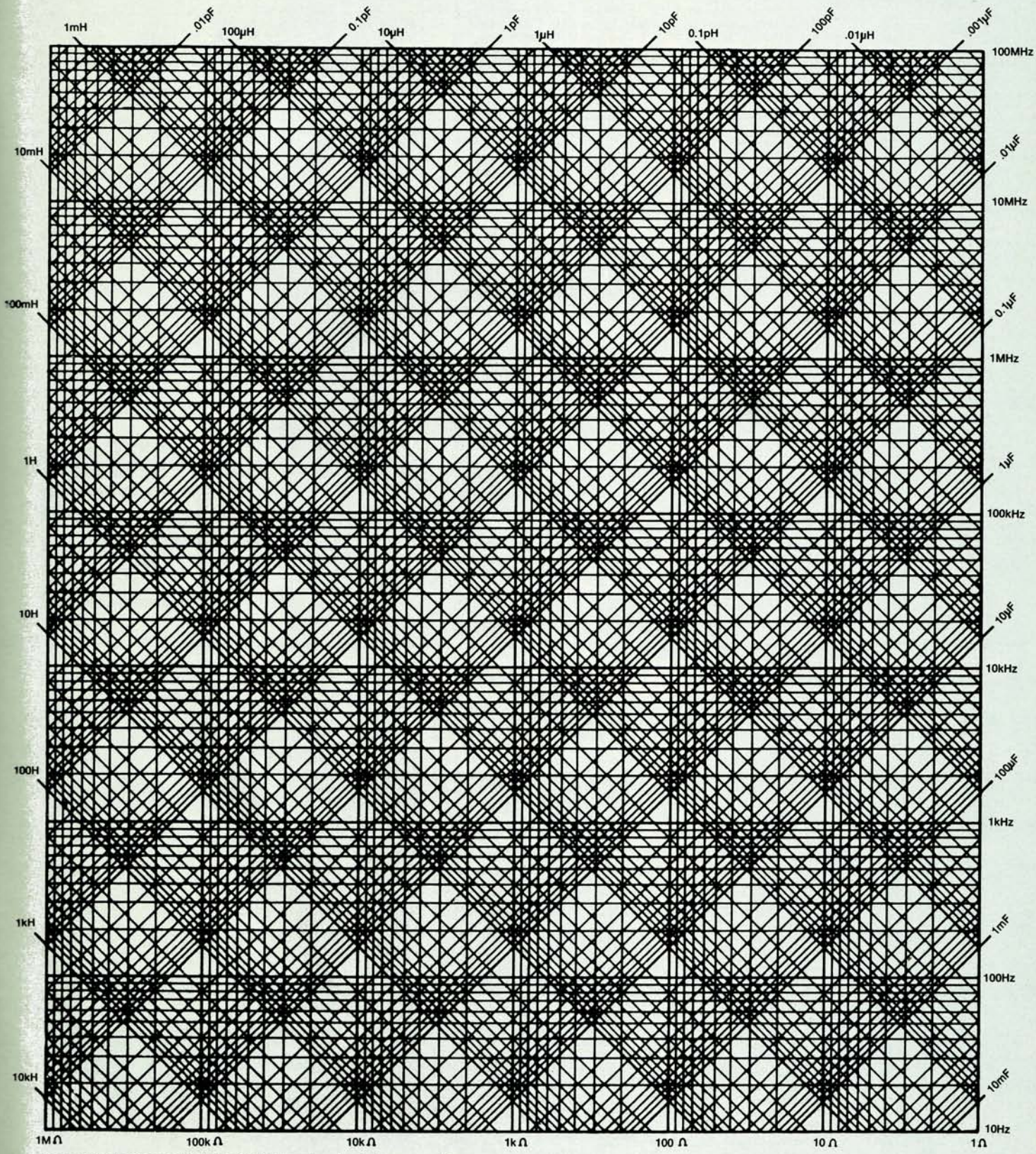


REACTANCE-FREQUENCY CHART FOR CAPACITORS, INDUCTORS & TUNED CIRCUITS

To find the reactance of a capacitor at a given frequency, follow the 45° capacitance value line until it intersects the horizontal frequency line, then read downwards to the ohms scale at the bottom. The reactance of an inductor can be read in a similar manner.

The chart can also provide information about resonant circuits. For example, locate where particular values of L & C intersect and read off the resonant frequency. If frequency is known and either L or C, find the intersect and read off the remaining value. Again, by following along a particular frequency line, a variety of LC options for resonance can be determined.

To design simple 6dB/octave speaker crossover networks, follow the appropriate resistance line up to where it intersects the desired crossover frequency and read off the required values of L & C.



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EVEREADY

ENERGIZER BATTERY REPLACEMENT GUIDE

EVEREADY TYPE NOS	VOLTAGE	SIZE/TYPE	REPLACES OTHER TYPE NOS:							
GENERAL PURPOSE TYPES										
915	1.5	AA Carbon Zinc	R6S	UM3-UE	15F	M15F	1006	R6ST	R6	UM3
935	1.5	C Carbon Zinc	R14S	UM2-UE	14F	M14F	1014	R14ST	R14	UM2
950	1.5	D Carbon Zinc	R20S	UM1-UE	13F	M13F	1020	R20ST	R20	UM1
HEAVY DUTY TYPES										
1015	1.5	AA Carbon Zinc	R6C	UM3-DE	15	M15R	2006	R6TR	HR6	UM3
1035	1.5	C Carbon Zinc	R14C	UM2- DE	14	M14R	2014	R14TR	HR14	UM2
1050	1.5	D Carbon Zinc	R20C	UM1-DE	13	M13R	2020	R20TR	HR20	UM1
216	9.0	Radio Carbon Zinc	6F22	006P-DE	1604D	M1604	2022	6F22TR	H6F22	PP3
509	6.0	(Dolphin) Carbon Zinc	4R25S	4F	908	M908	431		4R25	996
731	6.0	(Big Jim) Carbon Zinc	4R25S-2	4F2	918	M918			4R25-2	991
SUPER HEAVY DUTY TYPES										
1215	1.5	AA Carbon Zinc	R6P	UM3-NE	15D	M15HD	3006	R6HD	ER6	SUM3
1235	1.5	C Carbon Zinc	R14P	UM2-NE	14D	M14HD	3014	R14HD	ER14	SUM2
1250	1.5	D Carbon Zinc	R20P	UM1-NE	13D	M13HD	3020	R20HD	ER20	SUM1
1222	9.0	Radio Carbon Zinc	6F22	006P-NE	1604	M1604	2022	6F22TR	H6F22	PP3
1209	6.0	(Dolphin) Carbon Zinc	4R25P	4F	08D		430		H4R25	96PP
1231	6.0	(Big Jim) Carbon Zinc	4R25P-2	4F2	918D				H4R25-2	
SPECIAL PURPOSE TYPES										
E132	2.8	Merc Oxide	TR132	HM-2P	2NR50	1200M				
276	9.0	Carbon - Zinc	M1603	PP9	306	6F100	439			
276P	9.0	Carbon Zinc	M76P	PP20	306S	6F100				
E401	1.4	Merc. Oxide	RM401	HM-R	NR-1	10M	V401HM	4401		
411	15.0	Carbon Zinc	M208	B121	10F20	208	010			
735	1.5	Carbon Zinc	M900	AD4	R25-4	900	4FS	410		
732	12.0	Carbon Zinc	M926	926	8R25	9FD	TW2			
1703	8.5	Carbon Zinc	3R12	3R12PP	1689	1289	1012	786	703	
2362	9.0	Carbon Zinc	3R12	3R12PP	1689	1289	1012	786	703	
2362	9.0	Carbon Zinc	M 62	PP22	6F40-2	106P				
2364	9.0	Carbon Zinc	M64	PP23	6F40-4	106PP				
ENERGIZER (ALKALINE) TYPES										
E90	1.5	N	LR1	910A	MN9100	AM5	4001	L20		
E91	1.5	AA	LR6	15A	MN1500	AM3	4006	L40		
E92	1.5	AAA	LR03	24A	MN2400	AM4	4003	L30		
E93	1.5	C	LR14	14A	MN2400	AM4	4003	L30		
E95	1.5	D	LR20	13A	MN1300	AM1	4020	L90		
522	9.0	Radio	6LF22	1604A	MN1604	6AM6	4022	6L10		
529	6.0	(Dolphin)	4LR25	908A	MN9080					
CALCULATOR/GAMES TYPES										
A76	1.5	Alkaline	LR44	V13GA	4276	4176	AG13	RW82		
186	1.5	Alkaline	LR43	V12GA	4278		AG12	RW84		
189	1.5	Alkaline	LR54	V10GA	4274	LR1130	AG10	RW89		
191	1.5	Alkaline	LR55	V8GA	4273	LR1120	AG 8			
ECR 2016	3.0	Lithium	DL2016	CR2016	LF1/4V					
ECR 2025	3.0	Lithium	DL2025	CR2025						
ECR 2032	3.0	Lithium	DL2032	CR2032	LF1/2V					
WATCH TYPES										
301	1.5	Silver Oxide	1	SR43SW	280-01	528	RW34	226	120TC	SG12
303	1.5	Silver Oxide	9	SR44SW	280-08	521	RW32	A	SG13	
309	1.5	Silver Oxide	16	SR48SW		526	RW38	70T	SG5	
313	1.35	Merc.Oxide	13	MR44	280-06	501	RW52	HSC		
315	1.5	Silver Oxide	40	SR716SW						
319	1.5	Silver Oxide		SR527SW	280-60		RW328	TR527SW		
321	1.5	Silver Oxide	38	SR616SW		540	DPV	611		
323	1.35	Merc Oxide	8	MR48		506	RW58	C		
325	1.35	Merc Oxide	5	MR41	280-02	507	RW57	6UCD		
329	1.5	Merc Oxide	3	218	280-05	509	RW56	12UECD	8	
344	1.5	Silver Oxide	12	SR425		529	RW36	242		
350	1.5	Silver Oxide	14	SR42		549		604		
354	1.35	Merc Oxide	4	MR43		508	RW54			
357	1.5	Silver Oxide	7	SR44W	GP57	541	RW42	228	J	G13
361	1.5	Silver Oxide	46	SR721W	280-53	TR721W	RW410		X	G11
364	1.5	Silver Oxide	51 (31)	SR621SW	280-34	531	RW320	602	T	SG1
366	1.5	Silver Oxide		SR1116SW			RW318	608		
370	1.5	Silver Oxide	36	SW920W	280-51		RW415			G6
371	1.5	Silver Oxide	30	SR920SW	280-31	537	RW315	605		SG6
373	1.5	Silver Oxide	41	SR916SW	280-45	539	RW317			
377	1.5	Silver Oxide	37	SR626SW	280-39		D2V	606		SG4
379	1.5	Silver Oxide	50	SR521SW	280-57	TR521SW	RW327			
381	1.5	Silver Oxide	34	SR1120SW	280-27	533	RW30	SR55S		SG8
384	1.5	Silver Oxide	10	SR41SW	280-18	527	RW37	247		SG3
386	1.5	Silver Oxide	6	SR43W	280-21,41	548	RW44	260	H	G12
387	1.35	Merc Oxide				502	RW51	214		
388	1.35	Merc Oxide	9910			503		221		
389	1.5	Silver Oxide	17	SR1130W	280-15	554	RW49	SR54	M	G10
390	1.5	Silver Oxide	11	SR1130SW	280-24	534	RW39	SR54S	603	
391	1.5	Silver Oxide	23	SR1120W	260-30	553	RW40	SR55	609	G8
392	1.5	Silver Oxide	2	SR41W	280-11,13	547	RW47	247B	K	G3
393	1.5	Silver Oxide	15	SR48W	GP93	546	RW48	255	F	G5
394	1.5	Silver Oxide	27	SR936SW	280-17	524	RW33	SR45S		SG9
395	1.5	Silver Oxide	25	SR927SW	280-48	523	RW313	SRS65	610	SG7
396	1.5	Silver Oxide	29	SR726W	280-52	556	RW411	612	V	G2
397	1.5	Silver Oxide	26	SR726SW	280-28	536	RW311	607	N	SG2
399	1.5	Silver Oxide	35	SR927W	280-44		RW413	613		G7

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AM BROADCAST STATIONS

KEY:

N — National Station

C — Commercial Station

P — Public Access Station

kHz	Call	Type	Power (kW)	Location
531	2MC*	C	5	Kempsey
	3UL	C	5	Warragul
	4KZ	C	5	Innisfail
	5UV	P	0.5	Adelaide
	6DL	N	10	Dalwallinu
540	4QL	N	10	Longreach
	7SD	C	5	Scottsdale
549	2CR	N	50	Cumnock
558	4AM	C	5	Atherton
	4GY*	C	5	Gympie
	6WA	N	50	Wagin
	7BU	C	2	Burnie
567	2BH	C	0.5	Broken Hill
	4JK	N	10	Julia Creek
	6MN	N	0.1	Mt Newman
	6PN	N	0.1	Pannawonica
	6PU	N	0.1	Paraburdoo
	6TP	N	0.1	Mt Tom Price
576	2FC	N	50	Sydney
	2WEB	P	2	Bourke
594	3WV	N	50	Horsham
603	6PH	N	2	Port Hedland
	7ZL	N	10	Hobart
612	4QR	N	50	Brisbane
	6NM	N	0.2	Northam
621	3AR	N	50	Melbourne
630	4QN	N	50	Townsville
	6AL	N	0.4	Albany
	7QN	N	0.4	Queenstown
639	2CS*	C	5	Coffs Harbour
	4MS	N	1	Mossman
	5CK	N	10	Port Pirie
	8KN	N	10	Katherine
648	2NU	N	10	Tamworth
	6GF	N	2	Kalgoorlie
657	2BY	N	10	Byrock
	8DR	N	2	Darwin
666	6LN	C	1	Carnarvon
	2CN	N	2	Canberra
675	2CO	N	10	Corowa
	6BE	N	0.05	Broome
684	2KP	N	10	Kempsey
	6BS	N	4	Busselton
	8TC	N	1	Tennant Creek
693	4KQ*	C	5	Brisbane
	4KZ-T	C	0.5	Tully
	SSY	N	2	Streaky Bay
702	2BL*	N	50	Sydney
711	4QW	N	10	St George
	7NT	N	10	Launceston
720	2AN	N	0.05	Armidale
	2ML	N	0.4	Murwillumbah
	3MT	N	2	Omeo
	4AT	N	4	Atherton
	6WF	N	50	Perth
729	5CL	N	50	Adelaide
738	2NR	N	50	Grafton
	6MJ	N	5	Manjimup
747	4QS	N	10	Toowoomba
	6LN-T	C	1	Exmouth
	6SE	C	5	Esperance
	8JB	N	0.1	Jabiru
756	2TR	N	2	Taree
	4QA	N	2	Mackay
	6KW	N	0.1	Kununurra
765	2BE	C	3.5	Bega
	2BE-T	C	0.5	Moruya
	4GC	T	0.5	Hughenden
	5CC	C	5	Port Lincoln
	6KA-T	C	0.1	Paraburdoo
	6KA-T	C	0.1	Mt Tom Prie
	8DN-T*	C	0.25	Katherine
774	3LO*	N	50	Melbourne
	4TO*	C	5	Townsville
783	2KA	C	2	Katoomba
	6VA	C	2	Albany
	8AL	N	2	Alice Springs
792	4QG	N	10	Brisbane
801	4QY	N	2	Cairns
	5RM	C	2	Renmark
810	2BA	N	10	Bega
	6WN	N	10	Perth
819	2GL	N	10	Glen Innes
828	3GI	N	10	Sale
	4GC	C	0.5	Charters Tower
	4SS*	C	5	Nambour
837	6GN	N	2	Geraldton
	3CR	C	0.25	Melbourne
	4RK	N	10	Rockhampton
	6ED	N	1	Esperance
846	7QT	C	0.5	Queenstown
	2CY	N	10	Canberra
	4CA*	C	5	Cairns
855	6CA	N	0.2	Carnarvon
	4QB	N	10	Pialba
864	4QO	N	10	Eldsvold
	4GR*	C	2	Toowoomba
	6AM	C	2	Northam
873	7HO*	C	2	Hobart
	2GB*	C	5	Sydney
882	6DB	N	2	Derby
	3YB	C	2	Warrnambool
	4BH*	C	5	Brisbane
891	6PR*	C	2	Perth
	5AN	N	50	Adelaide
900	4AY*	C	5	Ayr
	2LM*	C	2	Lismore
	2LT	C	5	Lithgow
	7AD	C	2	Devonport
	8HA	C	2	Alice Springs
918	2XL	C	2	Cooma
	4VL	C	2	Charleville
	6NA	C	2	Narrogin
927	3UZ	C	5	Melbourne
	4CC	C	5	Gladstone
	4CD-T	C	0.1	Biloela
	6NR	P	2	Perth
936	7ZR	N	10	Hobart
945	3BO	C	2	Bendigo
	4HI-T	C	1	Dysart
954	2UE	C	5	Sydney
	4CA-T	C	0.35	Gordonvale
963	2RG	C	5	Griffith
	4WK	C	5	Warwick
	5SE	C	5	Mt Gambier
	6TZ	C	2	Bunbury
972	2MW	C	5	Murwillumbah
	2DU-T	C	0.1	Cobar
	5DN	C	2	Adelaide
981	2NM	C	5	Muswellbrook
	3HA	C	2	Hamilton
	6KG	C	2	Kalgoorlie
	3AB	N	0.25	Albury/ Wodonga
990	4RO	C	5	Rockhampton
	6PM	C	2	Perth
	8GO	N	0.5	Gove
999	2NB	N	2	Broken Hill
	2ST	C	5	Nowra
1008	2XX	P	0.3	Canberra
	4IO	C	5	Brisbane
	6GE	C	2	Geraldton
	7EX	C	5	Launceston
1017	2KY	C	5	Sydney
	6WH	N	0.1	Wyndham
1026	3DB	C	5	Melbourne
	4MK	C	5	Mackay
	6NW	C	2	Port Hedland
1004	2UH	N	1	Muswellbrook
	4WP	N	0.5	Weipa
	5PI	C	2	Crystal Brook
	6BR	N	1	Bridgetown
1053	2CA	C	5	Canberra
	4EB	P	0.5	Brisbane
1062	4TI	N	2	Thursday Is
1071	3CV	C	5	Maryborough
	4SB	C	2	Kingaroy
	6WB	C	2	Katanning
1080	2MO	C	2	Gunnedah
	4MI	N	0.2	Mount Isa
	6IX	C	2	Perth
	7HT	C	5	Hobart
1089	3WM	C	5	Horsham
	2GZ	C	5	Orange
1098	4LG	C	2	Longreach
	6MD	C	2	Merredin
	7LA	C	2	Launceston
1107	2UW	C	5	Sydney
1116	4BC	C	5	Brisbane
1134	2AD	C	2	Armidale
	3CS	C	5	Colac
	6CI	C	2	Collie
1143	2HD	C	2	Newcastle
	4HI	C	5	Emerald
1152	2WG	C	2	Wagga Wagga
1161	4MB	C	2	Maryborough
	5PA	N	10	Naracoorte
	7FG	N	1	Fingal
1170	2CH	C	5	Sydney
1179	3KG	C	5	Melbourne
1188	2NZ	C	2	Inverell
	6XM	N	2	Exmouth
1197	4GG	C	5	Gold Coast
	5KA	C	2	Adelaide
1206	2CC	C	5	Canberra
	2GF	C	5	Grafton
	6KY	C	2	Perth
1215	2ST-T	C	0.35	Bowral
	4HI-T	C	0.1	Moranbah
1224	2WS	C	5	Sydney
	3EA	S	5	Melbourne
1233	2NC	N	10	Newcastle
1242	3TR	C	5	Sale
	4AK	C	2	Oakey
	8DN	C	2	Darwin
1251	2DU	C	2	Dubbo
1260	3SR	C	2	Shepparton
	6KA	C	1	Karratha
1269	2SM	C	5	Sydney
1278	3AW	C	5	Melbourne
1287	2TM	C	2	Tamworth
1296	4BK	C	5	Brisbane
1314	2WL	C	5	Wollongong
	3BA	C	5	Ballarat
1323	2GO	C	5	Gosford
	5AD	C	2	Adelaide
1332	3SH	C	2	Swan Hill
	4BU	C	5	Bundaberg
1341	2NX	C	5	Newcastle
	3GL	C	5	Geelong
1350	2LF	C	5	Young
1368	2GN	C	2	Goulburn
	4LM	C	2	Mt Isa
1377	3MP	C	5	Mornington
1386	2EA	S	5	Sydney
	5AA	C	5	Adelaide
1395	2LG	N	0.2	Lithgow
1404	2PK	C	2	Parkes
	VKW	?	0.1	Cocos Islands
1413	2KO	C	5	Newcastle
1422	3XY	C	5	Melbourne
	VLU	?	0.5	Christmas Island
	2WN			
1431	2MG	N	2	Wollongong
1449	4LM-T	C	5	Mudgee
1458	5MU	C	0.1	Cloncurry
	3MA	C	2	Murray Bridge
1467	2KA-T	C	2	Mildura
1476	4ZR	C	0.5	Penrith
	2EA	C	2	Roma
	4HU	S	0.1	Wollongong
1485	5LN	N	0.05	Hughenden
	2AY	N	0.2	Port Lincoln
1494		C	2	Albury
		?	0.05	Lord Howe Island
	2BS			
1503	3AK	C	5	Bathurst
	2NA	C	5	Melbourne
1512	2QN	N	10	Newcastle
1521	2VM	C	2	Deniliquin
1530	4QD	C	2	Moree
1548	2RE	N	50	Emerald
1557	3NE	C	2	Taree
1566	4GM	C	5	Wangaratta
	200	N	0.2	Gympie
1575	2WA	C	5	Wollongong
1584	2BE-T	N	0.1	Wilcannia
	5MG	C	0.2	Narooma
	5WM	N	0.2	Mt Gambier
	7SH	N	0.05	Woomera
	4VL-T	N	0.1	St Helens
	2EA-T	C	0.2	Cunnamulla
	4SO	S	0.1	Newcastle
1593	5MV	N	0.2	Southport
	2CP	N	2	Renmark
1602	3WL	N	0.05	Cooma
	5LC	N	0.2	Warnambool
		N	0.1	Leigh Creek South
	1PHR			
1620	7RPH	P	0.5	Canberra
	4RPH	P	0.5	Hobart
	2RPH	P	0.5	Brisbane
1629	3RPH	P	0.5	Sydney
	VL2UV	P	0.5	Melbourne
1692		P	-	Uni of NSW

FM BROADCAST STATIONS

POLARITY KEY:

H — Horizontal

V — Vertical

M — Mixed Polarity

Freq.	Call Sign	Power (kW)	Pola.	Location
88.1	2RDJ	0.05	M	Burwood
88.5	2RRR	0.05	V	Ryde
88.7	2BCR	0.1	V	Bankstown
88.9	2RSR	0.04	V	Sydney
88.9	4CCR	3	V	Cairns
89.3	2GLF	0.05	V	Liverpool
89.3	4CRB	16.0	V	Gold Coast
89.7	2RES	0.1	V	Waverley
89.7	2VTR	0.02	M	Windsor Colo
89.7	5PBA	0.25	M	Elizabeth
90.1	2NBC	0.1	V	Narwee
90.5	2BBB/T	0.1	M	Dorrigo
91.5	4MK/T	0.1	V	Airlie Beach
91.5	2NSB	0.08	V	Chatswood
92.1	2MWM/T	0.025	M	Manly
92.1	5ABC	10.0	H	Adelaide
92.1	6UVS	5.0	M	Perth
92.1	7THE	3.0	H	Hobart
92.3	2ARM	0.1	H	Armidale
92.3	2MCE	1.0	V	Bathurst
92.3	2EON	10.0	M	Melbourne
92.5	2NCR	3.0	M	Lismore
92.5	4ABC	50.0	H	Maryborough
92.9	2ABC	50.0	H	Sydney
92.9	5EBI	4.0	M	Adelaide
92.9	6NEW	0.25	H	Newman
93.1	2ABC	10.0	V	Orange
93.3	6ABC	60.0	H	Bunbury
93.3	7ABC	120.0	H	Launceston
93.5	2ABC	50.0	V	Dubbo
93.7	2MWM	0.1	M	Manly Warringah
93.7	3MBS	4.0	H	Melbourne
93.7	4ABC	50.0	H	Rockhampton
93.7	5MMM	4.0	M	Adelaide
93.9	7ABC	27.0	H	Hobart
93.9	-	0.1	M	Norfolk Island
94.5	6ABC	50.0	M	Albany
95.1	6ABC	5.0	M	Geraldton
95.3	7RGY	0.01	V	Geeveston
95.5	SYOU	0.2	M	Tamworth
95.5	6ABC	1.5	M	Kalgoorlie
96.1	6NOW	10.0	M	Perth
97.5	3BBB	0.05	V	Ballarat
97.5	6ABC	50.0	M	Perth
98.9	6ABC	50.0	H	Mawson
98.9	6ABC	50.0	H	Northam/York
100.5	8KIN	0.4	M	Alice Springs
101.5	2GLA	5	V	Forster
101.5	4ABC	65.0	H	Townsville
101.7	4ABC	50.0	M	Mt Isa
101.9	2ABC	50.0	V	Canberra
101.9	3FOX	10.0	M	Melbourne
102.1	4ZZZ	6.0	M	Brisbane
102.1	8CCC	0.125	V	Alice Springs
102.3	3ABC	100.0	H	Mildura
102.5	2MBS	5.0	M	Sydney
102.7	3RRR	10.0	M	Melbourne
102.7	4DDR	2.0	H	Toowoomba
102.9	2EAR/T	0.16	V	Narooma
103.2	2CBA	5.0	M	Sydney
103.3	4MBS	6.0	M	Brisbane
103.3	7HFC	1.5	M	Hobart
103.5	3GCR	0.05	M	Churchill
103.5	3MBR	0.5	V	Murrayville
103.7	2ABC	2.5	M	Broken Hill
103.7	2NUR	3.0	M	Newcastle
103.7	7CTN	2.0	M	Launceston
103.7	8KIN/T	0.02	V	Ali-Curung
103.7	8KIN/T	0.225	V	Hermannsburg
103.7	8KIN/T	0.02	V	Santa Teresa
103.9	3CCC	2.0	V	Castlemaine
103.9	4TTT	0.05	M	Townsville
104.1	2CHY	0.04	V	Coffs Harbour
104.1	2DAY	35.0	M	Sydney
104.1	4MMM	6.0	M	Brisbane
104.1	5ABC	150.0	H	Mt Gambier
104.1	8TOP	10.0	M	Darwin
104.3	3ABC	50.0	M	Albury/Wodonga
104.5	2BOB	1.5	V	Taree
104.9	2MMM	35.0	M	Sydney
104.9	6KW/T	0.04	M	Argyle Mine
105.1	5ABC	95.0	V	Loxton
105.3	3ABC	50.0	H	Ballarat
105.3	7WAY	2.0	M	Launceston
105.7	2ABC	100.0	M	Bega
105.7	2ABC	50.0	M	Wagga Wagga
105.7	2JJJ	10.0	H	Sydney
105.7	3ABC	50.0	H	Melbourne
105.7	5GTR	0.25	M	Mt Gambier
105.7	8ABC	10.0	M	Darwin
105.9	3ABC	50.0	V	Swan Hill
106.1	2ABC	25.0	H	Newcastle
106.1	4ABC	50.0	H	Brisbane
106.1	5TCB	1.0	V	Bordertown
106.3	3ABC	100.0	M	Bendigo
106.3	3RPC	0.035	M	Portland
106.5	2EAR	0.8	V	Moruya
107.1	2AAA	0.2	M	Wagga Wagga
107.1	3ABC	100.0	H	Traralgon
107.3	2BBB	0.4	M	Bellingon
107.3	5RRR	0.3	M	Woomera
107.5	2ABC	50.0	M	Griffith
107.5	2SER	4.0	M	Sydney
107.5	3ABC	70.0	M	Western Victoria
107.5	5SSA	5.0	M	Adelaide
107.7	3PBS	0.1	M	Melbourne
107.9	2ABC	50.0	M	Taree
107.9	2ABC	25.0	M	Wollongong
107.9	2REM	0.3	M	Albury
107.9	4ABC	50.0	M	Toowoomba

TELEVISION STATIONS

CHANNEL 0: 45-52MHz

ABMN	SOUTH WEST SLOPES
TVQ	BRISBANE
ABUN(t)	GLEN INNES
ABC(t)	GOULBURN
ABCN(t)	PORTLAND
ABWN(t)	NAROOMA
NEN(t)	TAMWORTH
ABNQ(t)	GORDONVALE
ABMQ(t)	NEBO
ABNT(t)	ST HELENS
ABCN(t)	KANDOS
ABSN(t)	COOMA

CHANNEL 1: 56-63MHz

ABCN	ORANGE
ABTN	TAREE
ABEV	BENDIGO
ABAV	ALBURY
ABSQ	WARWICK
ABNS	PORT PIRIE
ABGS	MT GAMBIER
ABSN(t)	EDEN
NBN(t)	MURRURUNDI
NEN(t)	WALCHA
ABGV(t)	EILDON
ABTQ(t)	TOWNSVILLE
TNQ(t)	BOWEN
SEQ(t)	GYMPIE
ABW6(t)	MONTO
ABNQ(t)	MAREEBA
ABNQ(t)	BABINDA
ABW(t)	NARROGIN
ABT(t)	ROSEBERY
ABNT(t)	STH LAUNCESTON
ABNT(t)	ST MARYS
ABNT(t)	WYNYARD

CHANNEL 2:63-70MHz

ABN	SYDNEY
ABDN	COFFS HARBOUR
ABLN	BROKEN HILL
ABV	MELBOURNE
ABSV	SWAN HILL
ABQ	BRISBANE
ABS	ADELAIDE
ABW	PERTH
ABAW	ALBANY
ABT	HOBART
RVN	STH WEST SLOPES
ABUN(t)	INVERELL
ABN(t)	COBAR
ABRV(t)	WARRNAMBOOL
ABGV(t)	MYRTLEFORD
ABWV(t)	COLERAINE
ABMQ(t)	WHITSUNDAY
ABNQ(t)	MISSION BEACH
ABMQ(t)	DYSART
ABQ(t)	MT GARNET
FNQ(t)	GORDONVALE
ABS(t)	BORDERTOWN
ABNT(t)	WARATAH
ABN(t)	TAMWORTH
CTC	BOMBALA
ABLV	ORBOST

CHANNEL 3:85-92MHz

ABC	CANBERRA
NBN	NEWCASTLE
ABRV	BALLARAT
ABGV	GOULBURN VALLEY
ABDQ	TOOWOOMBA
ABTQ	TOWNSVILLE
ABRS	LOXTON
BTW	BUNBURY
ABNT	LAUNCESTON
ABRN(t)	KYOGLE
ABRN(t)	BONALBO
WIN(t)	EDEN
NEN(t)	GLEN INNES
WIN(t)	NAROOMA
WIN(t)	WOLLONGONG
ABWV(t)	CASTERTON
GMV(t)	EILDON
ABNS(t)	PT LINCOLN
VEW(t)	KAMBALDA
ABN(t)	NYNGAN
ABRQ	ROCKHAMPTON
VEW(t)	BAANDEE

CHANNEL 4:94-101MHz

WIN	WOLLONGONG
AMV	ALBURY
ABMV	MILDURA
SDQ	S DOWNS
ABMQ	MACKAY
GTS	SPENCER GULF NTH
CBN(t)	PORTLAND
ABN(t)	BOURKE
ABRV(t)	PORTLAND
ABWQ(t)	GYMPIE
ABNQ(t)	NTH CAIRNS
ABNQ(t)	HERBERTON
ABS(t)	KEITH
ABT(t)	QUEENSTOWN
ABNT(t)	SAVAGE RIVER
ABNT(t)	SWANSEA
ABNT(t)	SMITHTON
ABNT(t)	BURNIE
ABLV	TRARALGON
ABW(t)	GOLDSWORTHY
ABW(t)	SHAY GAP

CHANNEL 5: 101-108MHz

ABSW	BUNBURY
ABCN(t)	LITHGOW
RTN(t)	BONALBO
RTN(t)	KYOGLE
RTN(t)	MURWILLUMBAH
RTQ(t)	CRACOW
SEQ(t)	MONTO
GTS(t)	PT LINCOLN
ABKW(t)	KAMBALDA
ABT(t)	STRATHGORDON
^BQN	DUBBO
ABQ(t)	KAPELLA

CHANNEL 5A: 137-144MHz

ABHN	NEWCASTLE
ABWN	WOLLONGONG
ABWV	MT DUNDAS
ABCW	NORTHAM
RTS	LOXTON
ABUN(t)	ARMIDALE
ABUN(t)	QUIRINDI
MTN(t)	HAY
ABGV(t)	ALEXANDRA
ABRV(t)	COLAC
ABTQ(t)	BOWEN
ABWQ(t)	NAMBOUR
ABMQ(t)	MORANBAH
ABRQ(t)	GLADSTONE
ABQ(t)	WANDOAN
FNQ(t)	HERBERTON
RNQ(t)	MISSION BEACH
FNQ(t)	NTH CAIRNS
DDQ(t)	TOOWOOMBA
TNQ(t)	TOWNSVILLE
ABW(t)	LEEMAN
TNT(t)	WYNYARD

CHANNEL 6:174-181MHz

CWN	DUBBO
ABRN	LISMORE
BTV	BALLARAT
GMV	GOULBURN VALLEY
MVQ	MACKAY
ABWQ	MARYBOROUGH
ABIQ	MT ISA
ABRDQ	RICHMOND
ABGQ	GOONDIWINDI
ABMLQ	MITCHELL
ABLQ	LONGREACH
TVT	HOBART
ABGW	GERALDTON
ABKW	KALGOORLIE
ABD	DARWIN
WIN(t)	BEGA
CBN(t)	LITHGOW
RVN(t)	YOUNG
ABUN(t)	WALCHA
ABTN(t)	GLOUCESTER
ABN(t)	MURRURUNDI
GLV(t)	FOSTER
ABQ(t)	IVANHOE
ABCN(t)	BATHURST
ABQ(t)	KARUMBA
ABQ(t)	TAMBO
FNQ(t)	BABINDA
MVQ(t)	DYSART
RTQ(t)	EMERALD
FNQ(t)	MAREEBA
ABNS(t)	COWELL
ABMW(t)	WONGAN HILLS
ABW(t)	PARABURDOO
ABEW(t)	CONDINGUP
VEW(t)	KOOLYONOBBING
VEW(t)	MERREDIN
BTW(t)	NARROGIN
ABQ(t)	BORROLOOLA
TNT(t)	LILEAH
ABW(t)	KOOLAN IS

CHANNEL 7: 181-188MHz

CTC	CANBERRA
BKN	BROKEN HILL
ATN	SYDNEY
ABUN	NARRABRI
ABGN	GRIFFITH
HSV	MELBOURNE
BTQ	BRISBANE
RTQ	ROCKHAMPTON
TNQ	TOWNSVILLE
ABCLQ	CLONCURRY
ABRAQ	ROMA
ABDIQ	DIRRIBANDI
ABMNQ	MORVEN
ADS	ADELAIDE
ABWS	WOOMERA
TVW	PERTH
ABNW	NORSEMAN
ABCNW	CARNARVON
ABPHW	PORT HEADLAND
ABKAW	KARRATHA
ABAD	ALICE SPRINGS
AMV(t)	KHANCOBAN
BTV(t)	NHILL
GLV(t)	ORBOST
ABKD	KATHERINE
ABRQ(t)	JERICHO
ABQ(t)	GEORGETOWN
ABQ(t)	ISISFORD
ABQ(t)	WEIPA
ABQ(t)	MT MOLLOY
ABS(t)	CEDUNA
ABQ(t)	LEIGH CREEK
ABW(t)	KATANNING
ABAW(t)	ALBANY
ABW(t)	NEWMAN
ABQ(t)	GROOTE EYLANDT
TNT(t)	SAVAGE RIVER
TNT(t)	STHELENS
ABQ(t)	BEDOURIE
HTWR	TOM PRICE

CHANNEL 8:188-195MHz

CBN	ORANGE
ECN	TAREE
RTN	LISMORE
ABSN	COOMA
BCV	BENDIGO
GLV	LATROBE VALLEY
STV	MILDURA
ITQ	MOUNT ISA
SEQ	WIDE BAY
ABSGQ	ST GEORGE
ABWNQ	WINTON
ABAQ	ALPHA
SES	MT GAMBIER
VEW	KALGOORLIE
ABCMW	MORAWA
NTD	DARWIN
ABHN(t)	SCONE
ABMN(t)	WAGGA WAGGA
ABQ(t)	GOODOOOGA
GMV(t)	JERILDERIE
MVQ(t)	CLERMONT
MVQ(t)	NEBO
ABQ(t)	WILCANNIA
ABMQ(t)	COLLINSVILLE
ABQ(t)	BLACKWATER
ABNQ(t)	MOSSMAN
ABMQ(t)	MIDDLE MOUNT
ABNQ(t)	TULLY
ABNQ(t)	RAVENSHOE
ABQ(t)	COOKTOWN
ABQ(t)	NORMANTON
ABQ(t)	CROYDON
ABQ(t)	GREENVALE
ABQ(t)	BIRDSVILLE
ABQ(t)	BOULIA
ABQ(t)	QUILPIE
ABQ(t)	INJUNE
ABQ(t)	THURSDAY IS
ABQ(t)	CAMOOWEAL
ABQ(t)	COEN
ABQ(t)	LAURA
ABQ(t)	PENTLAND
ABQ(t)	MUTTABURRA
ABHN(t)	MERRIWA
GTS(t)	COWELL
ABS(t)	WIRULLA
ABRV(t)	COBDEN
ABW(t)	WAGIN
ABW(t)	SALMON GUMS
ABW(t)	EXMOUTH
ABW(t)	BROOME
ABW(t)	ONSLOW
ABW(t)	MARBLE BAR
ABW(t)	HALLS CREEK
ABW(t)	DERBY
ABW(t)	MT MAGNET
ABW(t)	MEEKATHARA
ABW(t)	LEONORA
ABW(t)	DENHAM
ABGW(t)	NORTHAMPTOM
TVT(t)	MAYDENA
TVT(t)	QUEENSTOWN
TVT(t)	STRATHGORDON
TVT(t)	SWANSEA
TVT(t)	TAROONA
ABNT(t)	LILEAH
ABD(t)	JABIRU
ABD(t)	ELCHO ISLAND
ABD(t)	NEWCASTLE WATERS
ABD(t)	MATARANKA
ABS(t)	ANDAMOOKA
ABS(t)	COOBER PEDY
ABS(t)	MAREE
CKWR	KOOLAN IS
GOVR	NHULUNBUY

CHANNEL 9:195-202MHz

MTN	GRIFFITH
TCN	SYDNEY
NEN	UPPER NAMOI
GTV	MELBOURNE
QTQ	BRISBANE
ABNQ	CAIRNS
ABMSQ	MILES
ABCEQ	CHARLEVILLE
ABSEQ	SPRINGSURE
ABBLQ	BLACKALL
NWS	ADELAIDE
STW	PERTH
GSW	ALBURY
ABSBW	SOUTHERN CROSS
ABRBW	ROEBURNE
TNT	LAUNCESTON
ABTD9	TENNANT CREEK
ABC(t)	TUGGERANONG
CWN(t)	MUDGEE
ABWN(t)	BATEMANS BAY
ABGN(t)	DENILIQUIN
ABLN(t)	MENINDEE
AMV(t)	MYRTLEFORD
BTV(t)	WARRNAMBOOL
ABWV(t)	NHILL
ABAV(t)	CORRYONG
RTQ(t)	CAPELLA
ABS(t)	LEIGH CREEK
ABS(t)	CEDUNA
ABGW(t)	MULLEWA
ABW(t)	KUNUNURRA
ABW(t)	COCKATOO ISLAND
ABW(t)	TEUTONIC BORE
VEW(t)	NORSEMAN
ABW(t)	KALBARRI
ABHQ	HUENDON
HTWR	MT NAMELS
NEWR	NEWMAN
VEW(t)	ESPERANCE
GEMR	GROOTE EYLANDE

CHANNEL 10:208-215MHz

TEN	SYDNEY
ABMIN	MUNGINDI
ATV	MELBOURNE
FNQ	CAIRNS
DDQ	DARLING DOWNS
ABJQ	JULIA CREEK
ABCAQ	CUNAMULLA
ABCTQ	CLERMONT
ABBQ	BARCALDINE
SAS	ADELAIDE
ABDW	DAMPIER
ABEW	ESPERANCE
ABMW	MOURA
CTC(t)	TUGGERANONG
NEN(t)	ARMIDALE
NEN(t)	ASHFORD
CWN(t)	COBAR
CTC(t)	COOMA
GMV(t)	DENILIQUIN
CTC(t)	GOULBURN
NEN(t)	INVERELL
CBN(t)	KANDOS
NBN(t)	MERRIWA
NBN(t)	SCONE
AMV(t)	CORRYONG
AMV(t)	TAWONGA STH
ABGN(t)	HAY
ABN(t)	LIGHTING RIDGE
ABN(t)	TOTTENHAM
ABTQ(t)	CORFIELD
RTQ(t)	BLACKWATER BLUFF
RTQ(t)	GLADSTONE
SEQ(t)	NABOUR
RTQ(t)	SPRINGSURE
ABS(t)	STREAKY BAY
ABW(t)	JURIEN BAY
ABW(t)	TOM PRICE
ABW(t)	QUE
ABW(t)	YALGOO
ABW(t)	LEINSTER
ABW(t)	MENZIES
ABW(t)	LAVERTON
GSW(t)	ALBANY
BTW(t)	KATANNING
BTW(t)	MAWSON
VEW(t)	SOUTHERN CROSS
TNT(t)	BURNIE
TVT(t)	ROSEBERY
ABT(t)	STRAHAN
ABTD(t)	WARREGO MINE
ABD(t)	PINE CREEK
ABD(t)	DALY RIVER
BTV	HAMILTON
MVQ	MIDDLEMOUNT
ABW	WINDOM
CKWR	KOOLAN IS
JSWR	JABBOROO

CHANNEL 11:215-222MHz

NRN	COFFS HARBOUR
ABEQ	EMERALD
ABAAQ	AUGATHELLA
GTW	GERALDTON
ABKT	KING ISLAND
WIN(t)	BATEMANS BAY
CBN(t)	BATHURST
ECN(t)	GLOUCESTER
NEN(t)	QUIRINDI
RVN(t)	WAGGA WAGGA
ABQN(t)	MUDGEE
ABGN(t)	JERILDERIE
ABMN(t)	YOUNG
GMV(t)	ALEXANDRA
AMV(t)	BRIGHT
GLV(t)	LAKES ENTRANCE
BTV(t)	PORTLAND
BCV(t)	SWAN HILL
ABLV(t)	CANN RIVER
ABLV(t)	FOSTER
ABQ(t)	SURAT
ABQ(t)	ARAMAC
ABC(t)	TAROOM
ABSQ(t)	TEXAS
ABWQ(t)	MIRRIAMVALE
MVQ(t)	COLLINSVILLE
MVQ(t)	MORANBAH
FNQ(t)	MOSSMAN
FNQ(t)	RAVENSHOE
FNQ(t)	TULLY
ABQ(t)	WALGETT
BTW(t)	WAGIN
ABW(t)	MERIDEN
ABSBW(t)	KOOLYANOBBING
ABW(t)	PANAWONICA
ABW(t)	RAVENSTHORPE
TNT(t)	DERBY
TNT(t)	SMITHTON
TNT(t)	LAUNCESTON
TNT(t)	ST MARYS
TNT(t)	WARATAH
ABD(t)	BATHURST ISLAND
ABQ(t)	ALBANY
ABD(t)	ADELAIDE RIVER
CKWR	COCKATOO IS
HTWR	PARABURDOO
ADD(t)	NHULUNBUY

UHF STATIONS

CHANNEL 28

SBS	CANBERRA
	SYDNEY
	MELBOURNE
	BRISBANE
	ADELAIDE
	PERTH
	HOBART

CHANNEL 29

AMBQ(t)	GLENDON

CHANNEL 32

MVQ(t)	GLENDON
SES(t)	NARACOURTE

CHANNEL 33

SES(t)	KEITH

CHANNEL 40

NBN(t)	GOSFORD

CHANNEL 42

HSV(t)	UPWEY

CHANNEL 43

SBS(t)	ADELAIDE

CHANNEL 44

SBS(t)	WOLLONGONG

CHANNEL 45

SBS	NEWCASTLE
ABAV(t)	TAWONGA SOUTH
GTV(t)	UPWEY

CHANNEL 46

ABN(t)	SYDNEY — KINGSGATE
ABV(t)	WARBURTON
ABV(t)	MARYSVILLE
ABNQ(t)	DIMBULAH
ABNQ(t)	TULLY FALLS
TVQ(t)	GOLD COAST
ABS(t)	ADELAIDE
ABMW(t)	DALLAWINU
ABW(t)	ENEABBA

CHANNEL 47

ABCN(t)	LITHGOW
ABNS(t)	QUORN

CHANNEL 48

ATV(t)	UPWEY
GMV(t)	MANSFIELD
ABNS(t)	HAWKER
ABN(t)	EAST DEVONPORT

CHANNEL 49

ATN(t)	GOSFORD
ATN(t)	SYDNEY — KINGSGATE
HSV(t)	WARBURTON
HSV(t)	MARYSVILLE
ABMQ(t)	AIRLIE BEACH
ABQ(t)	GOLD GOAST
FNQ(t)	TULLY FALLS
ADS(t)	ADELAIDE
SES(t)	BORDERTOWN

CHANNEL 50

ABWN(t)	WOLLONGONG
CBN(t)	LITHGOW
VEW(t)	YORK

CHANNEL 51

RTQ(t)	ALPHA
TNT(t)	EAST DEVONPORT

CHANNEL 52

TCN(t)	GOSFORD
TCN(t)	SYDNEY
GTV(t)	MARYSVILLE
GTV(t)	WARBURTON
ABN(t)	CARDSTONE
BTQ(t)	GOLD COAST
NWS(t)	ADELAIDE

CHANNEL 55

TEN(t)	GOSFORD
TEN(t)	SYDNEY — KINGSGATE
ATV(t)	MARYSVILLE
ATV(t)	WARBURTON
FNQ(t)	CARDSTONE
RTN(t)	GOLD COAST
SAS(t)	ADELAIDE

CHANNEL 58

SBS(t)	CANBERRA
SBS(t)	SYDNEY — KINGSGATE
SBS	COOMA
SBS	GOULBURN
SBS(t)	MARYSVILLE
SBS(t)	WARBURTON
QTQ(t)	GOLD COAST

CHANNEL 59

SBS	WOLLONGONG
BTW(t)	NORTHAM

CHANNEL 60

HSV(t)	SELBY

CHANNEL 61

SBS(t)	GOLD COAST

CHANNEL 63

GTV(t)	SELBY
GTW(t)	MULLEWA
VEW(t)	MECKERING

CHANNEL 66

ABMN(t)	TUMBARUMBA
CTC(t)	JINDABYNE
CWN(t)	NYNGAN
ATV(t)	SELBY
GTS(t)	ELLISTON
BTW(t)	KOJONUP
ABT(t)	CROTTY CAMP

CHANNEL 67

ABW(t)	LA GRANGE
ABD(t)	YULARA

CHANNEL 68

TNQ(t)	STUART

CHANNEL 69

CBN(t)	CONDOBOLIN
NBN(t)	DUNGOG
RVN(t)	TUMBARUMBA
ABQ(t)	THARGOMINDAH
ABQ(t)	STONEHENGE
ABQ(t)	BURDEKIN FALLS
ABQ(t)	JUNDAH
ABQ(t)	LOCKHART RIVER
ABQ(t)	WUJAL WUJAL
ABQ(t)	KOWANYAMA
ABQ(t)	EULO
ABQ(t)	BOLLON
ABQ(t)	HOPE VALE
ABQ(t)	GUNANA
ABQ(t)	EDWARD RIVER
ABQ(t)	WYANDRA
ABQ(t)	WINDORAH
ABQ(t)	JACKSON OIL FIELD
ABQ(t)	BAMAGA
ABRQ(t)	TIERI
RTQ(t)	BOYNE ISLAND
ABS(t)	ELLISTON
ABW(t)	ARGYLE MINE
ABW(t)	WILUNA
ABW(t)	KOJONUP
ABW(t)	WARBURTON RANGE
VEW(t)	TAMMIN
TVT(t)	CROTTY CAMP
ABD(t)	NUMBULWAR
ABD(t)	PULARUMPI
ABD(t)	PORT KEATS
ABD(t)	NGUKURR

NOTES:

(t) after a station callsign indicates a translator station. Feed from parent station can be by landline, microwave link, UHF link, "off air", videotape, or via satellite.

UHF TV CHANNELS

Channel No	Frequency Limits
BAND IV	
28	526—533MHz
29	533—540MHz
30	540—547MHz
31	547—554MHz
32	554—561MHz
33	561—568MHz
34	568—575MHz
35	575—582MHz
BAND V	
39	603—610MHz
40	610—617MHz
41	617—624MHz
42	624—631MHz
43	631—638MHz
44	638—645MHz
45	645—652MHz
46	652—659MHz
47	659—666MHz
48	666—673MHz
49	673—680MHz
50	680—687MHz
51	687—694MHz
52	694—701MHz
53	701—708MHz
54	708—715MHz
55	715—722MHz
56	722—729MHz
57	729—736MHz
58	736—743MHz
59	743—750MHz
60	750—757MHz
61	757—764MHz
62	764—771MHz
63	771—778MHz
64	778—785MHz
65	785—792MHz
66	792—799MHz
67	799—806MHz
68	806—813MHz
69	813—820MHz

This list was compiled from the latest information available, "Radio & Television Broadcasting Stations 1986", from the Department of Communications (Australian Government Publishing Service). This publication also lists radio & TV stations alphabetically by callsign and by area served, as well as detailing feed methods used and broadcast/TV standards used in Australia.

Australian Colour TV Transmission Standards

Channel Width:
7MHz vestigial sideband trans.
Vision Carrier:
1.25MHz above lower frequency edge of channel
Sound Carrier:
5.4996MHz above vision carrier
Vision Modulation:
Negative amplitude modulation
Lines per Picture:
625 lines, interlaced 2:1
Line Frequency:
14,625Hz
Aspect Ratio:
4:3
Horizontal Sync Pulse Amplitude:
100% carrier amplitude
Front Porch:
1.3 - 1.8us
Back Porch:
Line blanking interval - (front porch + sync pulse)
Line Blanking Interval:
11.8 - 12.3us
Black and Blanking Level:
77% peak carrier level
White Level:
20% of peak carrier level
Pre-equalisation Pulse Interval:
2.5H (H= line period, 64us)
Post-equalisation Pulse Interval:
2.5H
Field Sync Pulse Interval:
2.5H
Field Blanking Interval:
25H + 12us
Ratio peak vision to peak sound carrier:
10:1
Sound Modulation:
FM
Sound Deviation:
+/-50kHz

Australian VHF—FM Radio Transmission Standards

Frequency Range:
88 — 108MHz
Channel Frequencies:
88.1, 88.3 . . . . 107.7, 107.9
Deviation:75kH
Pre—emphasis/De—emphasis:
50 microseconds
Stereo Channel Subcarrier Frequency:38kHz
Pilot Frequency:19kHz

Satellite TV Reception: What you can see!

There has been some "misinformation" printed in the press about what can be received from satellites. Here are the facts from our experience (we have two satellite dishes installed at our North Ryde head office).

(1) Signals from Aussat are, by and large, "BMAC" encoded and cannot be received by normal methods without the necessary decoding equipment. Furthermore, many of the special services from Aussat (Sky Channel, Club Superstation, etc) are digitally encoded which makes them impossible to receive without the codes.

(2) Some signals from Aussat are transmitted in PAL. However, those signals formerly transmitted in unencoded PAL have been encoded since about September 1986. These signals will continue to be encoded but will use a more secure encoding method which will be introduced during 1987.

(3) Signals from Intelsat, Palapa, Gorizont, etc, are mostly NTSC and therefore need an NTSC TV for reception. Some signals are in PAL but these are now rare and becoming rarer. Dick Smith Electronics is currently investigating the possibility of producing a kit NTSC to PAL converter to allow NTSC signals to be seen on a PAL (Australian) TV set. Details later this year!

(4) Quality of received signal varies with distance from equator plus local factors (topography, weather, etc). Signals with a 3m dish in Sydney are watchable, but noisy. In Brisbane the same dish ensures virtually noise-free reception.

Australian HF-AM Radio Transmission Standards

Frequency Range:
531-1602kHz
Channel Frequencies:
531, 540, 549 . . . 1593, 1602
(Note:
Some special services are located slightly above this band. Receivers may need modification).
Stereo Signal:
Compatible quadrature amplitude modulated (C-Quam)
Pilot tone:
25Hz +/- 0.1Hz with a deviation of 3% to 5% of the quadrature channel
Frequency Response:
within 2dB (50Hz-7.5kHz)
THD:
Not exceeding 4% at 80% modulation (400Hz to 5kHz)
Stereo Separation:
18dB min.

AMATEUR BAND PLAN

160 metres — 1.8 to 1.86MHz full licence only

1.8 to 1.815MHz Morse section
1.815 to 1.860MHz voice section
1.825MHz national call channel
1.820MHz also a popular crystal net

80 metres — 2.5 to 3.8MHz novice and full licence

3.525MHz to 3.625MHz is the Novice Band in Australia
3.5 to 3.550MHz Morse section
3.550 to 3.7MHz voice section
3.7 to 3.74MHz is the US Novice Band
3.565MHz is a popular Novice listing and working channel
3.794 to 3.8MHz full licence only

40 metres — 7.0 to 7.3MHz full licence only

7.1 to 7.15MHz is the American Novice Band
7.0 to 7.035MHz Morse segment
7.035 to 7.3MHz voice segment
7.05MHz national listening channel, some AM stations but mainly Morse and LSB.

30 metres — 10.1 to 10.15MHz full licence only

20 metres — 14.0 to 14.35MHz full licence only

14.0 to 14.1MHz, Morse, 14.1 to 14.35MHz, voice
14.1 to 14.2MHz popular in Europe
14.2 to 14.35MHz popular in USA

15 metres — 21.0 to 21.45MHz novice and full licence only

21.125 to 21.2MHz is the Novice Band in Australia
21.0 to 21.15MHz is Morse
21.15 to 21.45MHz is voice
21.1 to 21.2MHz is the US Novice Band
In the US, voice is 21.25 to 21.45MHz. Morse is 21.0 to 21.25MHz

12 metres — 10.1 to 10.15MHz full licence only

10 metres — 28.0 to 29.7MHz novice and full licence only

28.1 to 28.6MHz is the Australian Novice Band
28.1 to 28.2MHz is the US Novice Band
28.0 to 28.5MHz is the Australian Morse section
28.5 to 29.7MHz is the voice section
28.5MHz is the national calling frequency in Australia
28.55MHz is a popular international channel
28.6MHz is the international DX listening frequency
29.6MHz International FM calling channel,

6 metres — 50 to 52, 52 to 54MHz full or limited licence

* Limited in area of TV Channel '0'

2 metres — 144 to 148MHz full or limited licence

6025-6400	—	Repeater Inputs
6425	146.425	Secondary voice channel
6450	146.450	Primary voice channel
6475	146.475	Secondary voice channel
6500	146.500	National Calling Channel
6525	146.525	Secondary voice channel
6550	146.550	Primary voice channel
6575	146.575	Secondary voice channel
6600	146.600	National RTTY
6625-7000	—	Repeater Outputs
7025-7375	—	Repeater Outputs
7400	147.400	ATV Liaison
7425	147.425	ATV/SSTV/FAX
7475	147.475	SSTV/FAX liaison
7550	147.550	Micro Net
7575	147.575	Micro Net
7600	147.600	Data Packet
7625-7975	—	Repeater Inputs

Notes: 144 to 144.600 is a narrow band FM mode area and 145.700 to 146.000 should be avoided because it interferes with satellite operation.

70cm and above: full or limited licence

420 to 450MHz	**3300 to 3600MHz**
576 to 585MHz	**5650 to 5850MHz**
1240 to 1300MHz	**10000 to 10500MHz**
2300 to 2450MHz	**24000 to 24250MHz**

AMATEUR LICENCING

The Department of Communications conducts examinations for Amateur Operator's Certificate of Proficiency (AOCP) several times each year at centres throughout Australia. There are four classes of licence:

AOCP: Amateur Operator's Certificate of Proficiency

AOLCP: Amateur Operator's Limited Certificate of Proficiency

NAOCP: Novice Amateur Operator's Certificate of Proficiency

Combined AOLCP/NAOCP

The requirements for these licences are:

AOCP: Knowledge of radio communication, operation and design of recievers, transmitters, aerials and basic theory. Send and receive in plain language International Morse Code to a speed of 10 words per minute (WPM). The knowledge of the regulations covering operation of Amateur Radio Stations.

AOLCP: As above, but no Morse Code required.

NAOCP: Similar to AOCP but of a lower standard. Morse Code to 5WPM, same regulations as AOCP. This is a relatively easy exam to pass.

Combined: Normally for those with AOLCP; achieved by possing NAOCP Morse exam (5WPM). Conversely, NAOCP holders can upgrade by passing LAOCP regulations.

The various licences allow:

AOCP: All amateur bands, with maximum of 400W Peak output power (150W AM).

AOLCP: All amateur bands above 30MHz, but no Morse allowed. Same power limits as AOCP.

NAOCP: 3.525 to 3.625MHz, 21.125 to 21.20MHz, 281. to 28.60MHz; Maximum output power 30 watts peak.

Combined: Same as taking either limited or novice alone.

CB RADIO CHANNELS

HF 40 CHANNEL INTERNATIONAL STANDARD

CHANNEL No.	FREQUENCY MHz	CHANNEL No.	FREQUENCY MHz
1	26.965	21	27.215
2	26.975	22	27.225
3	26.985	23	27.255
4	27.005	24	27.235
5	27.015	25	27.255
6	27.025	26	27.265
7	27.035	27	27.275
8	27.055	28	27.285
9 (emergency)	27.065	29	27.295
10	27.075	30	27.305
11	27.085	31	27.315
12	27.105	32	27.325
13	27.115	33	27.335
14	27.125	34	27.345
15	27.135	35	27.355
16	27.155	36	27.365
17	27.165	37	27.375
18	27.175	38	27.385
19	27.185	39	27.396
20	27.205	40	27.405

UHF 40 CHANNEL AUSTRALIAN STANDARD

CHANNEL No.	FREQUENCY MHz	CHANNEL No.	FREQUENCY MHz
1	476.425	21	476.925
2	476.450	22	476.950
3	476.475	23	476.975
4	476.500	24	477.000
5 (emergency)	476.525	25	477.025
6	476.550	26	477.050
7	476.575	27	477.075
8	476.600	28	477.100
9	476.625	29	477.125
10	476.650	30	477.150
11	476.675	31	477.175
12	476.700	32	477.200
13	476.725	33	477.225
14	476.750	34	477.250
15	476.775	35	477.275
16	476.800	36	477.300
17	476.825	37	477.325
18	476.850	38	477.350
19	476.875	39	477.375
20	476.900	40	477.400

CB LICENCING

Licences for CB equipment can be obtained from offices of the Department of Communications in each capital city and many country areas for an annual fee. Use of CB equipment requires no technical knowledge (apart from use of the equipment!) and no examination is required. While there are no legal restrictions on the use of channels (apart from the emergency channels) conventions have emerged which determine that certain channels will be used for specific purposes. Details of these channel usages are available through various clubs and magazines.

CB Radio may be used for business or pleasure; however it must be remembered that there is no privacy with CB and anybody may be listening in. Furthermore, no-one has 'occupancy' rights of any channel in any area. Several CB groups have established UHF CB repeaters in their areas. These have the same function as amateur radio repeaters. Input to these repeaters is generally on channels 1 to 5 (UHF). CB enthusiasts in your area will be able to tell you the local repeaters' frequencies.

MARINE FREQUENCIES

Frequency (MHz)	Use
27.680	Commercial organisations. Domestic ship-shore-ship and intership, calling and working.
27.720	Professional fishermen. Domestic, ship-shore-ship, calling and working.
27.820	Professional fishermen. Intership.
27.860	Amateur organisations. Alternate calling and working for distress, emergency and safety messages for weather and position reports.
27.880	**Distress calling ONLY**
27.900	Amateur organisations. Domestic ship-shore-ship, calling and working.
27.910	Amateur organisations. Domestic ship-shore-ship, calling and working.
27.940	Amateur organisations.Club events, ship-shore-ship and intership, calling and working.
27.960	Amateur organisations. Intership.
27.980	Surf rescue.

27MHz marine radio channels should not be confused with 27MHz CB radio channels. While both are in the 27MHz band they are not interchangeable and a 27MHz CB cannot be used on the 27MHz marine band and vice versa.

The alternative marine bands are VHF (56 channels available) and HF (many 'spot' frequencies available). Your Dick Smith Electronics store will be happy to advise you on the best marine transceiver for your craft.

Note that transceivers are not compulsory for most craft proceeding offshore.

CHANNEL DESIG	FREQUENCY (MHz) SHIP	SHORE	TYPE TRAFFIC
P1	157.375	157.375	Non Com'l
02	156.100	160.700	Port Ops
03	156.150	160.750	Port Ops
04	156.200	160.800	Port Ops
05	156.250	160.850	VTS
06	156.300	156.300	Safety
07	156.350	160.950	Com'l
08	156.400	156.400	Com'l
09	156.450	156.450	Com'l & Non Com'l
10	156.500	156.500	Com'l
11	156.550	156.550	Com'l
12	156.600	156.600	Port Ops
13	156.650	156.650	Navigational
14	156.700	156.700	Port Ops
15	156.750	156.750	Environmental
16	156.800	156.800	Safety Calling
17	156.850	156.850	State Control
18	156.900	161.500	Com'l
19	156.950	161.550	Com'l
20	157.000	161.600	Port Ops
21	157.050	161.650	Coast Guard
22	157.100	161.700	Coast Guard
23	157.150	161.750	Coast Guard
24	157.200	161.800	Public Corresp.
25	157.250	161.850	Public Corresp.
26	157.300	161.900	Public Corresp.
27	157.350	161.950	Public Corresp.
28	157.400	162.000	Public Corresp.
60	156.025	160.625	
61	156.075	160.675	
62	156.125	160.725	
63	156.175	160.775	
64	156.225	160.825	
65	156.275	160.875	Port Ops
66	156.325	160.925	Port Ops
67	156.375	156.375	Com'l
68	156.425	156.425	Non Com'l
69	156.475	156.475	Non Com'l
70	156.525	156.525	Non Com'l
71	156.575	156.575	Non Com'l
72	156.625	156.625	Non Com'l
73	156.675	156.675	Port Ops
74	156.725	156.725	Port Ops
77	156.875	156.875	Port Ops
78	156.925	161.525	Non Com'l
79	156.975	161.575	Com'l
80	157.025	161.625	Com'l
81	157.075	161.675	Coast Guard
82	157.125	161.725	Gov Only
83	157.175	161.775	Coast Guard
84	157.225	161.825	Public Corresp.
85	157.275	161.875	Public Corresp.
86	157.325	161.925	Public Corresp.
87	157.375	161.975	Public Corresp.
88	157.425	161.025	Com'l

Amateur Radio Repeaters

TWO METRE REPEATERS

ACT

Canberra	VK1RAC	6900	Black Hill
ACT	VK1RGI	6950	Mt Ginini

NEW SOUTH WALES

AREA	CALL	CHAN	SITE
Hunter Region - Newcastle	VK2RPI	6625	--
North Coast - Coffs Harbour	VK2RCH	6650	Bruxner Park
Western Blue Mountains	VK2RDX	6650	Mt. Bindo
Moree/Inverell	VK2RMI	6650	Terry Hie Hie
Sydney	VK2RTY	6675	Seven Hills
Central West - Orange	VK2RAO	6700	Mt. Canobolas
South Coast - Ulladulla	VK2RMU	6700	Milton
Mid-N. Coast-Pt.Macquarie	VK2RPM	6700	Taree
Central Coast - Gosford	VK2RAG	6725	Somersby
Far South Coast - Bega	VK2RFS	6750	Mt. Mumbulla
New England - Tamworth	VK2RTM	6750	Mt. Crawney
Riverina - Wagga	VK2RWG	6750	Mt. Flackney
Orana Region - W'bungles	VK2RCC	6800	Needle Mtn.
Far North Coast - Lismore	VK2RIC	6800	Parrots Nest
Sydney - Metro coverage	VK2RLE	6800	Heathcote
New England - Gunnedah	VK2RAB	6850	Porcupine Res.
South Coast - Wollongong	VK2RAW	6850	Mt. Murray
Riverina - Griffith	VK2RGF	6850	Mt. Bingar
Sydney - Northern Beaches	VK2RMB	6875	Terrey Hills
Hunter Region - Newcastle	VK2RAN	6900	Mt. Sugarloaf
Central West Condoblin	VK2RRT	6900	Boona Mount.
Sydney - Lower Nth. Shore	VK2RGR	6925	North Ryde
New England Tablelands	VK2RNE	6950	Mt. Rumbee
Hunter Region - Newcastle	VK2RAN	6975	--
Sydney - Metro coverage	VK2RWI	7000	Dural
Blue Mountains	VK2RMB	7050	Mt. Tomah
Sydney - Eastern Suburbs	VK2ROT	7075	Paddington
Hunter Region - Newcastle	VK2RTZ	7100	Mt. Sugarloaf
Central West - Grenfell	VK2RWM	7100	Grenfell
State Wide Emerg (WICEN)	--	7125	--
Sydney Emergency	VK2RWS	7150	Chatswood
South Coast - Nowra	--	7175	--
State Wide Emerg (WICEN)	VK2RSD	7200	Mt Cambewarra
Far North Coast - Byron Bay	--	7200	--
Sydney	VK2RST	7225	Lane Cove West
Sydney - Upper Nth Shore	VK2RNS	7250	Hornsby
South Coast - N Wollongong	VK2RIL	7275	Sublime Point
Sydney - West	VK2RTS	7300	--
Sthn Highlands - Goulburn	VK2RGN	7325	--
Sthn Highlands - Mittagong	VK2RHR	7350	Bowral
Sydney - South West	VK2RLD	7375	Razorback

VICTORIA

AREA	CALL	CHAN	SITE
Shepparton	VK3RGV	6650	Mt. Wombat
Melbourne	VK3RML	6700	Mt. Dandenong
Corryong	VK3RNC	6700	Mt. Mittamatite
Ouyen	VK3RON	6700	Ouyen
Ballarat	VK3RBA	6750	Mt. Bunn'yong
Latrobe Valley	VK3RLV	6800	Mt. Tassie
Mt. Macedon	VK3RMM	6850	Mt. Macedon
East Gippsland	VK3REG	6900	Donalds Knob
Swan Hill	VK3RSH	6900	Swan Hill
Grampians	VK3RWZ	6950	Mt. William
Geelong	VK3RGL	7000	Mt. Anakie
Wodonga	VK3RNE	7000	Mt. Big Ben
Omeo	VK3RGO	7050	Mt. Livingstone
Robinvale	VK3RVL	7050	Robinvale
Warrnambool	VK3RWL	7050	Mt. Warrn'bool
Bright	VK3RPB	7100	Mt. Porepunkah
South Gippsland	VK3RSG	7100	Bass Hill
Geelong	VK3RGC	7125	Montepellier
Bendigo	VK3RCV	7150	Mt. Alexandria
Melbourne	VK3REC	7175	Mt. Dandenong
West Gippsland	VK3RWG	7225	Warragul
Portable	VK3RWP	7300	--
Melbourne	VK3RTY	7350	Mt. Dandenong

QUEENSLAND

AREA	CALL	CH	SITE
Rockhampton	VK4RAR	6700	Rockhampton
Townsville	VK4RAT	6700	Mt. Stuart
Gold Coast	VK4RGC	6700	Mt. Tambourine
Mt. Isa	VK4RMI	6700	
Darling Downs	VK4RDD	6750	Mt. Mowbullan
Bundaberg	VK4RBU	6800	Mt Goon'man
North Coast	VK4RNC	6850	Nr Nambour
Ipswich	VK4RAI	6900	Mt. Crosby
Gladstone	VK4RGB	6900	Caliope Range
Cairns	VK4RCA	6950	Mt. B'den Ker
Brisbane	VK4RBN	7000	Mt. Glorious
Mackay	VK4RMK	7000	North Mackay
Brisbane	VK4RBT	7050	Mt. Cotton
Brisbane	VK4RAG	7150	Springhill
Portable	VK4RWI	7150	
Bundaberg	VK4RBS	7250	Mt. Goon'man
Brisbane	VK4RQT	7300	

SOUTH AUSTRALIA

AREA	CALL	CHAN	SITE
Gove	VK5--	6650	--
Port Pirie	VK5RMN	6700	The Bluff
Eyre Penninsula	VK5REP	6800	--
Adelaide	VK5RHO	6850	Houghton
Mt. Gambier	VK5RMG	6900	Mt. Gambier
Adelaide	VK5RAD	7000	Crafers
Alice Springs	VK5RCA	7000	Alice Springs
Darwin	VK5RTE	7000	--

WESTERN AUSTRALIA

AREA	CALL	CHAN	SITE
Bunbury	VK6RSW	6650	Bunbury
Albany	VK6RAL	6700	Albany
Perth	VK6RAP	6700	Roleystone
Wyndham	VK6RWH	6700	Wyndham
Wickham	VK6RWK	6700	Wickham
Perth	VK6RTH	6750	Tic Hill
Albany	VK6RAA	6800	Mt. Barker
Perth	VK6RTH	6800	Tic Hill
Karratha	VK6RWP	6800	Karratha
Exmouth	VK6REX	6850	Tower Zero
Kambalda	VK6RKB	6850	Kambalda
Bunbury	VK6RBY	6900	Mt. William
Mt. Newman	VK6RMN	6900	Mt. Newman
Perth	VK6RPD	6950	W.A.I.T. Bentley
Emergency	VK6REE	6975	
Kalgoorlie	VK6RAK	7000	Kalgoorlie
Wagin	VK6RAW	7000	Mt. Latham
Emergency	VK6REE	7000	
Geraldton	VK6RGN	7000	Geraldton
Port Hedland	VK6RNW	7000	Port Hedland
Perth	VK6RTY	7050	Nedlands
Perth	VK6RWC	7100	Doubleview
Cataby	VK6RCT	7200	Cataby
Boddington	VK6RMS	7250	Mt. Saddleback
Eneabba	VK6REN	7300	Ocean Hill
Busselton	VK6RBN	7350	Busselton

TASMANIA

AREA	CALL	CHAN	SITE
North West	VK7RAD	6625	Mt. Duncan
Hobart	VK7RHT	6700	Mt. Wellington
North West Coast	VK7RNW	6750	Ulverstone
East Coast	VK7REC	6900	Snow Hill
North East Coast	VK7RAA	7000	Mt. Barrow

70cm REPEATERS

AREA	CALL	CHAN	SITE
ACT			
Canberra	VK1RGI	8525	Mt Ginini
NSW			
Southern Highlands	VK2RTK	8025	Somersby
Central Coast - Gosford	VK2RAG	8074	Terrey Hills
Sydney North Beaches	VK2RMB	8175	Port Kembla
South Coast - Wollongong	VK2RUW	8225	Chatswood
Sydney - Emergency	VK2RWS	8275	Taree District
North Coast - Taree	VK2REE	8325	Kurrajong
Blue Mountains	VK2RUT	8375	Hurstville
Sydney Southern Suburbs	VK2RUH	8425	Parramatta
Sydney Western Suburbs	VK2RRS	8475	Dural
Sydney - Metro coverage	VK2RWI	8525	New Lambton
Hunter Region - Newcastle	VK2RUM	8625	Mt. Sugarloaf
Hunter Region - Newcastle	VK2RAN	8675	Mt. Nardi
Far North Coast - Lismore	VK2RSC	8675	Sublime Point
South Coast - N.Wollongong	VK2RIL	8725	
VIC			
Melbourne	VK3RMU	8074	Mt. St. Leonard
Melbourne	VK3ROU	8225	Mt. Dandenong
Portable	VK3RWE	8275	
Gippsland	VK3RGU	8375	Carrajung
Melbourne	VK3RAD	8525	Mitcham
Wodonga	VK3RNU	8525	Mt. Stanley
Mildura	VK3RRU	8525	Merbein
Portable	VK3RWI	8625	
Grampians	VK3RWU	8675	Mt. William
Mt. Macedon	VK3RCU	9275	Mt. Macedon
Benalla	VK3RDU	9425	Chassney Vale
	VK3RBU	9575	
Melbourne	VK3RPU	9725	Arthurs Seat
QLD			
North Coast	VK4RNC	8074	Mt. Nambour
Gold Coast	VK4RGC	8225	Mt. Tambourine
Brisbane	VK4R	8375	Brisbane South
Brisbane	VK4RBC	8525	Mt. Coot-tha
Bundaberg	VK4RBU	8675	Mt. Goon'man
S A			
Adelaide	VK5	8525	Crafers
W A			
Perth	VK6RUF	8525	Roleystone
TAS			
Hobart	VK7	8525	--
North East	VK7RAB	8550	Mt Arthur
Hobart	VK7RTC	8600	Mt Nelson
North West	VK7RAC	8650	Table Cape

SIX METRE REPEATERS

NSW

AREA	CALL	CHAN	SITE
Sydney	VK2RWI	3850	Dural
Hunter	VK2---	3625	--
VIC			
Melbourne	VK3RTN	3675	Mt Dandenong
Melbourne	VK3MH	3900	Hurstbridge
WA			
Perth	VK6RSM	3200	Tic Hill

Amateur Television & ATV Repeaters

VK2RTV: Gladesville Amateur Radio Club TV Group

Input: Vision 426.25MHz Sound 431.75MHz
Output: Vision 579.25MHz Sound 584.75MHz (UHF TV Ch35)

VK2RTV is located at Lane Cove, Sydney, in the studios of the Gladesville Amateur Radio Club's TV Group.

This club is the foremost teaching body for amateurs in Australia, and each Wednesday evening transmissions take place which include tapes of sections of the novice or full call amateur radio licence courses that this club has produced, as well as other items of technical interest. Transmission commences at 7.00PM local time with a test pattern.

Licenced amateurs within viewing range are invited to give reception reports on the club's 2m repeater (VK2RGR) on 146.925MHz. Information about the club may be obtained by writing to the club at PO Box 48, Gladesville, NSW 2111.

VK2RTS: Sydney ATV Group

Input: Vision 444.25MHz Sound 449.75MHz
Output: Vision 579.25MHz Sound 584.75MHz (UHF TV Ch35)

VK2RTS is located near Springwood in the lower Blue Mountains. Input to this repeater is via touch tone operation and information can be obtained by writing to SATV Group, Box 84, Hazelwood 2779, or via 147.3MHz simplex (this will be operating as a repeater when funds and time are available).

A net is held every Tuesday night at 7.30PM on the above frequency. VK2RTS re-transmits the material from Wednesday's VK2RTV transmission on Saturday at 7.30PM

Repeater hours: Mon-Fri 1400 — 2200, Sat & Sun 1000 — 2200.

VK4RTV: South East Queensland ATV Group

Repeater operation is via a valid television signal. Touch tone operation is required for rotation of the receive antenna. Two metre liaison frequency is 147.3MHz (VK4RQT) and the 70cm liaison frequency is 438.025MHz (VK4RTQ).

For more information please contact SEATV Group, PO Box 3, Chermside Qld 4032.

AREA	CALL	INPUT VISION	INPUT SOUND	OUTPUT VISION	OUTPUT SOUND
CANBERRA	VK1RTV	426.25	431.75	579.25	584.75
SYDNEY	VK2RTV	426.25	431.75	579.25	584.75
SPRINGWOOD	VK2RTS	444.25	449.75	579.25	584.75
NEWCASTLE	VK2RTN	426.25	431.75	579.25	584.75
WAGGA	VK2RTW	444.25	449.75	579.25	584.75
BENDIGO	VK3RMZ	426.25	431.75	579.25	584.75
MELBOURNE	VK3RTV	444.25	449.75	579.25	584.75
BRISBANE	VK4RAT	444.25	449.75	579.25	584.75
BRISBANE	VK4RTV	449.25	449.75	579.25	584.75
CENTRAL NORTH	VK5RCN	426.25	431.75	444.25	449.75
CENTRAL NORTH	VK5RCN	579.25	584.75	444.25	449.75
ADELAIDE	VK5RTV	426.25	431.75	579.25	584.75
ADELAIDE	VK5RTV	444.25	449.75	579.25	584.75
HOCKHAM	VK5RWH	444.25	449.75	1246.25	1251.75
PERTH	VK6ROD	426.25	431.75	579.25	584.75
PERTH	VK6RUF	426.25	431.75	579.25	584.75
DEVONPORT	VK7RAE	444.25	449.75	579.25	584.75
NORTH WEST	VK7RTV	444.25	449.75	426.25	431.75

DECIBELS

Contrary to popular usage and belief the DECIBEL is not a unit of anything, as is the volt or ampere or ohm, but rather a ration of voltages or currents or power levels in the electronics field. The human ear can detect sounds over a very wide range of power levels but its response is not linear. As the sound level increases the ear's apparent sensitivity decreases. A sound which is doubled in actual intensity does not seem to be twice as loud to the ear.

The ear in fact works on a logarithmic scale hence measurements on sound levels or on equipment that produces sound must be on the same logarithmic scale if they are to make sense.

THE DECIBEL CHART

The chart is the one most suitable for measurements on audio amplifiers and associated equipment, with one scale showing the ratio of power or voltage or current plotted against the decibel scale (dB). If specific examples need to be worked out the following formula can be used:-

$$dB = 10 \log \frac{P1}{P2}$$

where P1 and P2 are the two power levels. If the output power is greater than the input power then the ratio, in dB, is positive, eg +6dB. If the output is less than the input the ratio is expressed as a negative value, eg -12dB. In either case P1 is the larger of the two values.

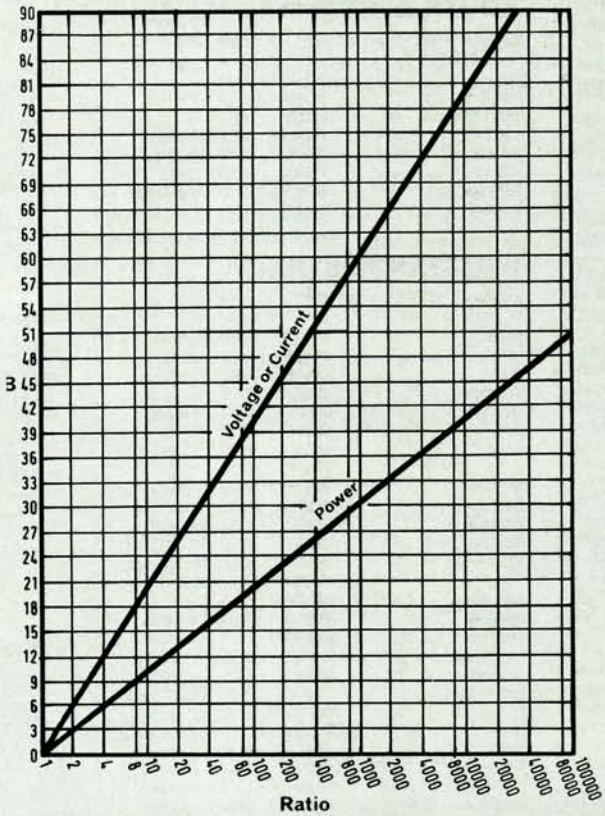
If the voltage or current is being considered the formula becomes:-

$$dB = 20 \log \frac{V1}{V2}$$

The formula assumes that the input and output impedances are the same. If they are not then due allowance must be made in the formula.

The formula for taking into account differing input and output impedances is:-

$$dB = 20 \log \frac{V1}{V2} + 10 \log \frac{Z1}{Z2}$$



SOME AUDIO TERMS EXPLAINED

The specification for the performance of an audio amplifier system will often include terms using decibels above or below (+/-) some standard, usually maximum power output at some stated amount of harmonic distortion. Using the chart it is possible to see what these figures mean in terms of actual power. Since negative values or losses are frequently involved the following table will prove a valuable addition to the chart.

Loss -dB	Power Ratio (approx.)	V or I Ratio (approx.)
0	1.0	1.0
1	0.8	0.9
2	0.6	0.8
3	0.5	0.7
4	0.4	0.6
5	0.3	0.56
6	0.25	0.5
10	0.1	0.3
15	0.03	0.18
20	0.01	0.1
30	0.001	0.03
40	10^{-4}	0.01
50	10^{-5}	0.003

Power Bandwidth: Typically 30H to 20,000Hz, at which points the amplifier is only capable of delivering half its rated output without distoriton, regardless of input level.

Frequency Response: Typically stated as 20Hz to 20,000Hz +/-1dB which means a reduction to 0.8 (8/10ths) of maximum power output at these limits.

Signal to Noise Ratio: Typically -80dB relative to maximum power. This gives a ratio of 100,000,000 to 1. If the maximum power output of the amplifier is 100 watts (100,000,000 uW) the noise level at maximum volume should not exceed one micro-watt!

METRIC UNITS AND CONVERSIONS

Multiply by ←	Into ← To convert →	To Convert Into →	Multiply by
2.296×10^{-5}	Acres	Square feet	4.356×10^{4}
2.471×10^{-4}	Acres	Square metres	4047
2.778×10^{-4}	Ampere-hours	Coulombs	3600
2.54×10^{8}	Angstrom units	Inches	3.937×10^{-9}
10^{10}	Angstrom units	Metres	10^{-10}
0.02950	Atmospheres	Feet of water	33.90
0.06804	Atmospheres	Pounds per sq. in.	1470
1.0133	Bars	Atmospheres	9.870×10^{-7}
6.8947×10^{-2}	Bars	Pounds per sq. in.	14.504
$(^{o}F - 32) \times 5/9 = {}^{o}C$	Centigrade	Fahrenheit	$(^{o}C \times 9/5) + 32 = {}^{o}F$
$^{o}K - 273.1 = {}^{o}C$	Centigrade	Kelvin	$^{o}C + 273.1 = {}^{o}K$
3.531×10^{-2}	Cubic feet	Litres	28.32
6.102×10^{-2}	Cubic inches	Cubic centimetres	16.39
2.832×10^{-2}	Cubic metres	Cubic feet	35.31
0.16667	Fathoms	Feet	6
3.281	Feet	Metres	0.3048

Multiply by ←	Into ← To convert →	To Convert Into →	Multiply by
6.481×10^{-2}	Grams	Grains	15.43
28.35	Grams	Ounces (avdp)	3.527×10^{-2}
1.341	Horsepower	Kilowatts	0.746
0.3937	Inches	Centimetres	2.54
10^{-3}	Kilograms	Tonnes	10^{3}
0.4536	Kilograms	Pounds (avdp)	2.205
3.408×10^{-4}	Kilometres	Feet	3281
9.4637×10^{12}	Kilometres	Light years	1.0567×10^{-13}
0.869	Knots	Miles per hour	1.1508
2.54×10^{-2}	Metres	Inches	39.37
0.6214	Miles (statute)	Kilometres	1.609
5.88×10^{12}	Miles (statute)	Light years	1.691×10^{-13}
1.1508	Miles (statute)	Miles (nautical)	0.869
10^{-3}	Millimetres	Microns	10^{3}
2.205×10^{-3}	Pounds	Grams	453.6
746	Watts	Horsepower	1.341×10^{-3}

HANDY REFERENCE CHART FOR IMPERIAL TO METRIC CONVERSION

Inches	Decimal	Millimeters	Inches	Decimal	Millimeters	Inches	Decimal	Millimeters	Inches	Decimal	Millimeters
1/64	.015625	.3969	17/64	.265625	6.7469	33/64	.515625	13.0969	49/64	.765625	19.4469
1/32	.03125	.7937	9/32	.28125	7.1437	17/32	.53125	13.4937	25/32	.78125	19.8437
3/64	.046875	1.1906	19/64	.296875	7.5406	35/64	.546875	13.8906	51/64	.796875	20.2406
1/16	.0625	1.5875	5/16	.3125	7.9375	9/16	.5625	14.2875	13/16	.8125	20.6375
5/64	.078125	1.9844	21/64	.328125	8.3344	37/64	.578125	14.6844	53/64	.828125	21.0344
3/32	.09375	2.3812	11/32	.34375	8.7312	19/32	.59375	15.0812	27/32	.84375	21.4312
7/64	.109375	2.7781	23/64	.359375	9.1281	39/64	.609375	15.4781	55/64	.859375	21.8281
1/8	.125	3.1750	3/8	.375	9.5250	5/8	.625	15.8750	7/8	.875	22.2250
9/64	.140625	3.5719	25/64	.390625	9.9219	41/64	.640625	16.2719	57/64	.890625	22.6219
5/32	.15625	3.9687	13/32	.40625	10.3187	21/32	.65625	16.6687	29/32	.90625	23.0187
11/64	.171875	4.3656	27/64	.421875	10.7156	43/64	.671875	17.0656	59/64	.921875	23.4156
3/16	.1875	4.7625	7/16	.4375	11.1125	11/16	.6875	17.4625	15/16	.9375	23.8125
13/64	.203125	5.1594	29/64	.453125	11.5094	45/64	.703125	17.8594	61/64	.953125	24.2094
7/32	.21875	5.5562	15/32	.46875	11.9062	23/32	.71875	18.2562	31/32	.96875	24.6062
15/64	.234375	5.9531	31/64	.484375	12.3031	47/64	.734375	18.6531	63/64	.984375	25.0031
1/4	.25	6.3500	1/2	.5	12.7000	3/4	.75	19.0500	1	1	25.4

Information

STOCK AND PRICES

This catalogue is produced to cover the year from April 1987, until March 1988. Because of this, plus the fact that this catalogue is in print production from January 1987, there may be items shown in this catalogue that are not in stock at the time of your receiving this catalogue, or could even be sold out. Likewise, prices are subject to revision during the life of this catalogue. We are aware of the inconvenience that this sometimes causes and would like to take this opportunity to ask you to bear with our problems and if your are not sure as to prices and stock availability, please phone and check with us before making a long journey.

Thank you — **the staff of Dick Smith Electronics.**

GUARANTEES

Manufacturer's guarantee.

1. **All Australian manufacturer's guarantees are fully valid on products we sell.**
2. **Semiconductor guarantee policy.** Most manufacturers will not replace semiconductors, as all semiconductors shipped from their factories are computer quality controlled. However, in some cases when the value of the semiconductor is considerable (eg over $5), a manufacturer's engineer will test the semiconductor if it is returned unsoldered to them. You can return your semiconductor to the manufacturer's agents either through our company, if purchased from us, or deal direct, to save time.
3. **Periods of guarantee.** Unless stated otherwise, and subject to any statutory rights, items in this catalogue carry a standard warranty of 90 days from date of purchase. If you are not supplied with a guarantee card, keep your sales dockets, including cash register receipt, in a safe place, as the sales docket will become your guarantee card. If your purchase requires warranty service within the warranty period, you will be requested to produce your docket when returning the product under warranty for repair.
4. **Freight.** Although repairs under warranty are carried out free of charge, the customer is required to pay the freight both ways. Therefore, to save yourself money, make absolutely certain that the unit is faulty before returning for repair.
5. **Warranty service on items over $75 retail.** At our discretion, we replace on-the-spot, many goods returned under warranty, for a new item from our inventory providing the item is in 'as new' condition, including packing and accessories. However, on high value lines the item must be returned to our service department for inspection before being repaired or replaced under warranty.

SATISFACTION GUARANTEE

If for any reason you are not satisfied with your purchase, return the goods to us within **7 days** of purchase, in original condition and in original carton, and we will exchange or return your money, less transportation costs. Goods returned to us must be unmarked and in the exact condition as supplied.

You must include all sales dockets when you return the goods. This policy does not cover semiconductors, valves, books and computer software. For mail order customers, our guarantee period is specially extended to **14 days.**

QUANTITY/RESELLER'S PRICES

On many of our lines we can offer extremely attractive prices for large quantities. Our distribution company will be glad to advise you on either large quantity purchases or purchasing for re-sale. (In normal circumstances, all sales tax is paid on our goods on the understanding that the goods are not to be re-sold. This keeps the price down for the hobbyist). For enquiries regarding re-selling or quantity prices, please call

DS Distributors,
Cnr Lane Cove & Waterloo Rds,
North Ryde, NSW, 2113
Telephone 888 3200

SCHOOLS, COLLEGES, ETC.

We supply a very large number of schools with components, etc for their electronics courses. Obviously, the bulk discounts apply for schools purchasing in quantity. A 30 day account is available for schools — please apply direct to the General Manager on your school letterhead.

SALES TAX

All prices shown in this catalogue include sales tax, where applicable. Goods can only be supplied less tax, if:

1. A sales tax number or exemption certificate is supplied on an official order, or
2. The goods are to be directly exported by us, or
3. Travel documents, etc. are supplied by bona-fide overseas travellers. (See 'Overseas Travellers')

In all cases for sales tax exemption, the minimum value of each item must be at least $10.

SUBSTITUTION

When a certain product is no longer available, where possible we will substitute an equal or better quality product on the understanding that a substitute is available. If our purchasing power makes this substitute cheaper, then we will pass the savings on to the customer. If, however, we can improve on the product, the price could either increase or remain the same as the original product. To summarise, all prices and specifications are subject to change without notice.

TERMS

We can offer credit terms through AGC to customers who personally visit our stores. These terms are offered on condition that the customer is approved by the finance company (*TAP: To Approved Purchasers). Terms are NOT available to DSXpress customers: we suggest you use your credit card.

RAIN CHECK POLICY

If advertised goods are sold out during the currency of the advertisement or if goods are otherwise unavailable for unforeseen reasons, our policy is to issue a 'Rain Check' to enable you to buy the goods at a later date for the advertised price. This does not apply to special scoop purchases limited stock offers and the like which will normally be noted as such and say 'No Rain Checks'.

COMPUTER HOTLINE

Because of the fantastic response to home computers and their peripherals, we have instigated a COMPUTER HOTLINE. This service is extended to customers who have purchased, or are thinking of purchasing, any Dick Smith computer, hardware or software peripherals. We welcome your enquiries as we feel that the only way to a better understanding of the computers we sell is through your questions. Please give us a call.

1.00pm to 5.00pm
Monday to Friday
On (02) 888 2002

OVERSEAS TRAVELLERS

As a service to overseas travellers visiting Australia, our stores can supply goods free of sales tax providing:

1. Airline tickets, passport, etc. are produced at the time of purchase.
2. Certificate 'C' is properly filled out and handed to the store manager.

NOTE: This concession is **NOT** available for Australians travelling overseas.

In order to avoid the obligation to pay sales tax, an overseas traveller must export his goods overseas within six months of purchase.

SPECIAL PURCHASES

We normally stock the goods shown in this catalogue and in our regular advertisements in the daily press and in electronics magazines. New items are continually being sourced and added to our range to cater for as wide a range of needs as possible. A great deal of effort is put into searching for new products. For this reason, it is impossible for us to purchase special items for individual customers outside our normal range. However, each store maintains a 'products asked for' book and if demand is sufficient for any particular item we will investigate the viability of stocking it in all stores.

QUOTATIONS

We do give written quotations if required. We must emphasise however, that prices are subject to confirmation at time of order. This is because there are many factors in our prices that are beyond our control and therefore responsibility.

PRICES ON PRODUCTS

All prices in this catalogue were checked at time of compilation, but are subject to change without notice.

The price savings shown are either off our previous price, or off our competitor's normal selling prices for equivalent goods.

STORE HOURS

All Dick Smith Electronics stores are open for trading during normal trading hours for their particular area (either 9 to 5.30 or 8.30 to 5). Many stores are also open for extended hours trading where applicable: please ring the store concerned for their particular hours. (Numbers on page 5)

LIABILITY

As the use of our products is completely beyond our control or supervision, we cannot be held responsible for damage or destruction, consequential or otherwise, of equipment or articles in or on which our products are used, attached, or otherwise employed.

Liability is limited to repair, replacement or refund (at our option) of goods purchased.

HAVE YOU ANY PROBLEMS OR COMPLAINTS?

We are particularly proud of the reputation our company has earned with electronics enthusiasts. The last thing we want is an unhappy customer. If there is something that you don't like, or if you have any suggestions which may help us serve you better please let us know. Every call or letter will receive personal attention.

Because problems can be solved most quickly at local level, we suggest that our State Managers will be able to help you best. Contact them on the following direct numbers:

NSW: (02) 888 3200
Vic/Tas: (03) 674 781
Qld: (07) 391 6490
WA: (09) 227 8243
SA/NT: (08) 212 3159

ELECTRONIC ORDERING

DSXPRESS — DICK SMITH ELECTRONICS EXPRESS ORDER SERVICE

Electronic ordering is quickest and easiest. For your convenience, we have also included two mail order forms in this catalogue. Orders on this form receive preferential treatment over all other systems except electronic ordering. Extra forms are despatched with each order.

CATALOGUE NUMBERS

To minimise the chance of error in your order please use the catalogue number as well as a description of the product.

PRICES

If prices vary, the new price will be shown on your delivery advice and a debit or credit issued. You may return the goods for a full credit under our satisfaction guarantee, if you are not satisfied.

PAYMENTS

Money orders or crossed cheques to be sent with order. DO NOT SEND CASH through the post. Please make money orders payable at North Ryde Post Office, and cheques made payable to Dick Smith Electronics.

CREDIT CARDS

For your convenience, we accept orders for mail orders on Credit Cards. The minimum order value Bankcard, Visa, Mastercard and American Express purchase is $5.

DSXpress TOLL-FREE PHONE ORDER

To make ordering even easier we have installed a special 'Order-by-Credit Card' phone line. To place an order, ring us on **(008) 22 6610**

For the price of a local call, anywhere in Australia, 24 hours a day (answer machine takes your order after hours). Quote your credit card number and street address and we'll have your order on its way within 24 hours. Mail Order enquiries or Sydney area orders should be directed to the normal DSXpress Number:

(02) 888 2105.

NEW ZEALAND CUSTOMERS

Despite opening 10 DSE stores throughout New Zealand with their own DSXpress order centre, we still have a large number of New Zealand customers buying from DSXpress (mainly because of the increased range available). When buying from overseas, please remember to take into account currency differences between your currency and the Australian Dollar.

NEW ZEALAND BANKCARD

We are happy to accept New Zealand Bankcard as payment for international mail orders. Simply fill in the Bankcard details on the Mail Order Form.

OPEN CHEQUES

If you are not sure of the total amount of your mail order and are paying by cheque, simply cross the cheque and make it payable to Dick Smith Electronics. Leave the amount blank, and we will fill in the cost of the goods and delivery charges if applicable. This eliminates charging for small balances or issuing credit vouchers. Many of our customers have been using this system for years and find it very satisfactory.

MINIMUM MAIL ORDER VALUE

The minimum order amount is $5 unless otherwise implied in 'Special Offers' through advertisements.

OVERSEAS MAIL ORDERS

We are happy to sell to foreign countries. Simply address your order to **'DSXpress International Mail Orders'** at the above address on the mail order form **or phone ISD 622 888 2105.** Where possible, we will deduct Australian Sales Tax (note the $10 minimum for sales tax exemption).

On more expensive items, the savings in Sales Tax could mean the cost of freight is recovered. Remember, however, that you may have to pay Customs and importing charges at your end (if applicable). We cannot supply full Customs documentation, but all parcels include the required customs dockets.

We would also remind overseas customers that our guarantees are 'ex store'.

If, for any reason, goods are returned to us from overseas (eg for service, etc) it is absolutely essential that Customs documents are included. If they are not it can be a very costly process to obtain Customs Clearance and this charge must be paid by the customer. Failure to include Customs documents can also result in long delays.

REGISTRATION

The customer may nominate registration and insurance for his goods. Where this is not specified, the goods will be sent at the customers — your — risk!

DAMAGED GOODS

All claims for damaged or missing goods must be filed with the carrier concerned — do not open parcel if you suspect that the goods are damaged.

DESPATCH OF ORDERS

All goods in stock are despatched promptly. Goods out of stock are **'Back Ordered'** and sent later at our expense (and it's an extremely costly job) unless we advise otherwise. All back orders are despatched immediately we receive the goods from our suppliers. When we send a copy of your order back to you, the delay times will be quoted, but because this information is given to us by our suppliers we cannot guarantee their accuracy. We will advise you of any further delays monthly.

ENQUIRIES ON ORDERS

If you wish to enquire in any way about your order, please give FULL DETAILS. Give date of posting your order to us, your name, address and postcode, a list of the products ordered, any relevant mail order/cash sale invoice numbers. If the above are not given, we have no way of checking your order. Please quote Customer Number for fast efficient service.

PHONE ENQUIRIES ON ORDERS

You are welcome to enquire about your order by phoning our enquiry line **(02) 888 2105.** Because our system is computerised, we can normally give you the information you want very quickly — at most within a couple of minutes.

Before phoning, please have available your customer number (from your last invoice or from any correspondence), name and address on order, and the information required.

CREDIT ACCOUNTS

We do not operate general credit accounts and we suggest that customers use their Credit Cards whenever possible.

INDEX

A
Adaptor plugs 32, 33, 79
Adhesive 22, 27
Airfreight 145
Alarms 16, 84-88
Alligator clips 34
Amateur accessories 78, 79, 82
Amateur books 116-120
Amateur radio 12, 13, 35, 67-71
Amplifiers/audio 10, 96
Amplifiers/kits 11, 12
Amplifiers/RF 14
Answering machines 103
Antenna/car radio 92
Antenna/CB 13, 73
Antenna marine 73
Antenna matcher/coupler 68, 76
Antenna rotator 72
Antenna scanners 76
Antenna shortwave 12
Antenna/TV 70, 81-83
Audio accessories 11
Audio/adaptor cables 57, 58
Audio connections 44
Audio/public address 96

B
Batteries 61
Battery charger 60
Battery eliminator 63
Battery holder & clips 60
Battery tester/lamp fuse 35
Bell, fire 86
Bezels 52, 54
Binders 118
Books 116-120
Boxes 50,51
Brackets 53, 89
Breadboards 39
Bulbs 55
Burglar alarms 16, 84-88

C
Cabinets 50, 51
Cables 53, 56, 58
Cables, computer 59
Cables, ties & clamps 33, 34, 59, 78, 82
Calculators 110-111
Capacitors 41, 122
Car aerials 92
Car alarms 16, 88
Car audio/accessories 90-92
Car/bits & pieces 17
Car speaker grilles 90, 92
Car stereo 90-94
Car tune-up equipment 89
Cassette head cleaning kit 93
Cassette recorders/players 90-91
Cassettes/audio 94
CB radios/accessories 35, 65, 66, 74, 75
Ceramic filters 57
Charges, battery 60
Chokes 56, 57
Clocks 10, 11, 17, 95, 96
Clock/radios 95
Coaxial plugs/connector 59, 68
Communications receivers 76-77
Compact disc cleaning kits 93
Component packs 42
Computer books 116
Computer connectors 46, 58, 115
Computers 112-115
Computer software 115
Connectors 45
Cooling fans 60
Cordless phones 100
Cores/ferrite 56
Crocodile clips 34
CROs 15, 34
Crossovers 99

D
Data 121-134
Data books 118-120
Dataphones 114
Developers 64
Digital IC's 38, 39
Digital multimeters 28-32
Diodes 36, 125
Direction finder 12, 77
Disco strobe kit 11
Disk drives 113
Disk notcher 115
Disks 114
Down converter 78, 80
Drills 22

E
Edge connectors 45
Electrolytic caps 41, 42
Electronic ignition 17
Electronic learning aids 109
Electros 41
Enhancer/TV 9
Etchants 27, 64
Extension speaker, communications 75

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F
Faders 91
Fans 60
Feet (rubber) 53
Ferric chloride 64
FETS 125
Filters 57
Fire bell 86
Fire sensor 86
Floodlights 55
Floppy disks 114
Fluoro lamps 106
Fluoro starter 17
FM intercoms 83
FM microphones 98
Frequency counters 14, 28
Funway books & kits 6-8
Function generator 15
Fuses/fuse holders 35, 59

G
Games 107, 108, 109
General information 145
Globes 55
Graphic equalizer 10
Graphic equalizer/car 90
Grilles 99
Grommets 53

H
Hand-held CB 66, 74-76
Hand-held games 107
Hardware 52, 52
Headphone radio 93, 94
Headphones 97
Heathkits 18, 19
Heatsinks 26, 55, 56
Heatsink tubing 59
Hereo Robot 18
Hi-Fi 91-95
Hi-Fi speakers 90, 92
Hook-up wire 58
Home alarms 16, 84-87
Horn speakers 96, 99
How to do it books 116-120

I
IC insertion tool/extractor 20
IC's 64
IC sockets 46
Ignition killer 16
Ignition system kits 17
Information 145
Infra-red controller 9, 17
Innerbond 99
Instruments 30-35
Insulating tape 27
Integrated circuits 38, 39
Intercoms 83

J
Joysticks 115

K
Keyboards 107, 109
Kits 6-17
Knobs 43

L
Lampholders 60
Lamps 55, 56, 106
LCD 37
LDR 126
Learning aids 109
LED 37, 42, 126
Level meters 54
Linear amp 12, 13, 70
Linear IC's 39
Line filter 63
Logic probe 34
L'pads 99
LSI IC 38
Lug packs 53

M
Magazine binders 118
Magnifier lamp/glasses 23
Mail order information/form ....Insert
Mains equipment 60
Marine equipment 65, 66
Masthead amp 9, 82
Matrix board 64
Megaphones 71
Metal detectors 23
Meters 11, 13, 15, 19, 54, 55, 108
Metric Clock 17
Microphone accessories 57
Microphone amateur 71
Microphones 71, 98
Microswitch 48
Microwave leakage detector 17
Mixer 11
Modems 114
Modulators 9
Monitors 89, 113, 114
Mosfets 10, 36
Motion detectors 16, 18
Multimeters 18-32
Multitech computer 112, 113
Music synthesiser 10
Musicolor 11

N
Negative ion generators 17, 104
Neon lamps 55
Neon test screwdrivers 21
Nibbling tool 22
NiCad batteries 60, 61, 70
Noise suppressor 9, 91
Nuts & bolts 52

O
Operational amplifiers 39
Order forms ....Insert
Oscillators 15, 33
Oscilloscope 15, 35

P
PA equipment 96
Pagers 105
Panel meters 32, 54, 55
Panic switch 86
Paper (printer) 114
Part cases 51
Peripherals 114
Phones 100, 103
Phone ext. cords 102
Photo sensitive devices 64
Piezo speakers 99
Pilot lamps 55
Pliers 20
Plugs & sockets 44-46, 79
Pot cores 40
Power meters 34
Power supplies 12, 63, 68
Power transformers 62
Pre amplifiers 9, 11, 13
Printed circuit boards 21, 64
Printer cables 115
Printers 110, 114
Printer paper/ribbons 114
Probes 28-35
Project boxes 50, 51

R
Radar detectors 88
Radiation indicator 15
Radio control 107
Radios 65, 66, 90-94
Receivers, communications 76, 77
Rechargeable cells 60, 61, 70
Record cleaning kit 93
Rectifiers 26, 126
Reed switches 87
Relays 56
Repair kits 21, 22
Resistors/pots 40, 42, 122
Resistance substitution wheel 31
RF chokes 57
RLC bridge 15, 19
Robots 18, 107
Roof rack antenna mount 75
Rotary switches 48
Rotator 72

S
Satellite TV 78
SCR 125
Screwdrivers 21
Screws 52
Semi-conductors 36, 37
Service aids 22, 27, 64, 94
Signal generator/injector 19, 33
Siren 88
Sockets 44-46, 79
Software 115
Solar cells 37
Solder 26
Soldering irons 24-26
Solder lugs 45
Spacers 52
Spaghetti 58, 59
Speakers 90, 92, 99
Speed Controller 17
Splitters 79, 92
Spray cans 27
Stereo simulator/convertor 10, 79, 91
Stopwatches 95
Storage files 23
Strobe light/kit 11
Suppressors 91
Switches 17, 19, 47-49
Swivel base 113
SWR meters 35

T
Tachometer 17
Tag strips 41
Tape accessories 93, 94
Tapes/cassette 94
Tapes/video 94
Telephone answering machine 103
Telephone ext. cords 102
Telephones 100-103
Teletext decoder 9
Terminal strips 46
Test leads & clips 32-34
Test equipment 14, 15, 28-35
Timers 87
Thermometers 108
Tools 20-27
Torches 106
Toroids 57
Toys 107
Transceivers 12, 13, 65, 67-69, 70-75
Transfers 86
Transformers 15, 25, 62
Transistor assisted ignition 17
Transistors 36
Transistor sockets 46
TRIACS 37, 125
Trimmers 41
Tuners 10, 11, 19
TV accessories 79, 82
TV aerials 70, 81-83
TV game switch box 79
TV pattern generator 15
Tweeters 99
Tweezers 20

U
Ultrasonic alarms 84
UHF/VHF antenna 81
UHF/VHF down converter 80
Utility box 23

V
Varistors 38
VHF marine radio 65
VHF/UHF antenna 81
Video cleaning tape 93
Video enhancer 9
Video leads 57
Video modulator 9
Video tapes 94
Voltage regulators 37, 127
VU meters 54
VZ300/200 113

W
Walkie talkies 66, 74-76
Warning stickers 86
Watches 95
Weather station 19
Wire & cable 58, 59
Wireless microphones 98
Wire stripper 20
Woofers 99

X
Xenon flashtubes 55

Z
Zippy boxes 50

Data Index

Amateur information 132, 142-143
ASCII codes 135
Audio terms 144
Australian TV stations 140, 141
Bipolar transistors 123, 124
Broadcast stations AM/FM 139
Capacitor codes 121
CB information, marine, amateur 142
Circuit laws 121
CMOS devices 130
CMOS handling precautions 133
Coaxial cable specifications 134
Colour code 121
Common component diagrams 129
Conversion tables 144
Counters 129
Decibels 144
Decimal poke address 135
Diode data 125
Eveready battery substitute 138
FET data 125
Flip flops 129
FM stations 139
Frequency conversion 136
Gates 129
Hexadecimal consultants 135
Inverters 129
Large scale IC's 131
Latches 129
Linear devices 131
LED's 126
Marine frequencies 142
Metric conversions 144
Microphone connections 134
Photo sensitive devices 126
Power supply circuits 127
Reactance/frequency chart 137
Rectifiers 126
Repeaters 143
Resistor colour code 121
Satellite data 141
SCR data 124
Semi-conductor outlines 128
Tantalum capacitor codes 121
Transistor data 123, 124
Triac data 125
Winding RF plugs, morse code 136
Winding details 134, 136
Wire gauges & winding data 134
VHF, UHF, TV stations 140, 141
Voltage regulators 127
Zener diode data 127
74 series connectors 132
4000 series CMOS 130

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Cat No.	Qty	Description	Item Price	Total Price

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☐ Credit Card
☐ Visa ☐ Bankcard ☐ Mastercard ☐ Amex
Card Number Exp. Date .....
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Unless insured, goods are sent at the owner's — your — risk.

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☐ Airmail (Add $4 to standard P&P charge)

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Insurance:	
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DSXpress

DICK SMITH ELECTRONICS EXPRESS ORDER SERVICE

FREE FREIGHT

DSXpress — We've had 18 years to make us the best!

ONLY DSXpress gives you the security of 18 years experience — almost half a million customers just can't be wrong! Everybody appreciates our simple, reliable and speedy service. While others are promising, we're delivering.

ONLY DSXpress gives you the benefit of our exclusive 14 day satisfaction guarantee: if you're not absolutely delighted, return the goods in original condition and packaging for a full refund (or credit to your card). You'll owe nothing: not even an explanation.

ONLY DSXpress gives you the convenience of seven different ways to order... and four different low-cost ways to receive your goods (we subsidise the freight charges, too!) And DSXpress sends orders all over the world: New Zealand, Papua New Guinea, the Pacific... and even to the heart of mail orders — the USA!

ONLY DSXpress has a full computerised automatic back-order system: our IBM System 38 computer automatically prints an invoice carefully detailing all items, credits, charges, etc. No messy handwritten scraps of paper. No credit notes to get lost: your next order automatically is credited with any previous overpayments! (If you prefer, we'll post back a cheque immediately!)

ONLY DSXpress has a full computerised automatic back-order system: if something you order is out of stock, the computer registers a priority when the stock arrives. We send the missing items to you — automatically — and we pick up the tab.

ONLY DSXpress has over three hundred thousand dollar's worth of stock PLUS a buffer stock of nearly seven million dollars! (DSXpress is right next door to our main warehouse — under the same roof — so guess who gets the goods the quickest???)

ONLY DSXpress uses professional packing consultants to make sure your goods arrive undamaged, but with a minimum packed weight to save costs. And only DSXpress has a full-time packing quality control officer — just to make sure!

ONLY DSXpress offers exclusive 'specials' and offers not available through the rest of the company stores. There are big advantages in being a DSXpress customer: you're a member of an exclusive 'club' which receives special consideration. We know how difficult it can be to live out the back of Bourke: we want to make life as easy as possible for you!

ONLY DSXpress has the buying power of nearly five hundred stores and resellers in three countries, PLUS the backing of a two billion dollar per year organisation. You'll find we have items not available elsewhere, at the right price!

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(RING FROM ANYWHERE FOR THE COST OF A LOCAL CALL)

008..226 10

(SYDNEY AREA [02] CALL 888 2105)

Dick Smith Electronics Commercial Sales

Why buy from five or six small wholesalers when you can buy nearly all of your electronics needs from Australia's leading electronics wholesaler?

By purchasing product through DSE Wholesale, you will benefit from the following services:

1. One of the most sophisticated quality assurance programs in Australia.
2. An outstanding service organization with outlets in all capital cities and many of the outlying areas.
3. A distribution network which can guarantee immediate despatch of all orders.
4. One of Australia's largest inventories of components and consumer electronics.

If you are purchasing product in volume, you should contact DSE Wholesale, the full service wholesale supplier.

DSE Wholesale

Dick Smith Electronics Wholesale

Dick Smith Wholesale is the exciting new division that is about to send the Australian Electronics industry running for cover.

Over the next year this dynamic department will be expanding the new divisions of Commercial Sales and Small Business Systems and revitalising the existing Distributor network.

By 1988, Australia's most successful electronics retailer will also be the new leader in electronics wholesaling.

Dick Smith Distributors

Have you ever wanted to run your own business but didn't know where to start? Are you a successful businessman wanting to get out of the rat race and be your own boss? Have you considered buying a franchise but couldn't see the value in the up front charges?

Dick Smith Distributors has the solution. For over ten years Dick Smith Electronics has supplied a selected distributor network with our exclusive range of products.

How could you miss with benefits like this!

1. Guaranteed margins on advertised lines.
2. Prices that reflect the buying power of a $60 million a year company.
3. Management systems and policies that pass on to you the inside secrets of DSE's success.
4. Free advertising for qualified Dealers.
5. Access to Dick Smith Electronics exclusive range of products.
6. A six tiered bulk pricing structure.

DSE Small Business Systems

Dick Smith Electronics' Small Business Systems division is designed to provide the businessman with all the tools necessary to fully automate his or her office. Through Dick Smith Electronics you can receive any of the following systems:

1. Multitech microcomputers, Australia's most highly regarded IBM compatible.
2. A full range of telephone products, all Telecom authorised, and suitable for use with most PABX systems.
3. Telephone Answering Machines which keep your office open when the staff is out.
4. A full range of calculators, both business and scientific.
5. A complete range of accessories such as diskettes, paper and ribbons.

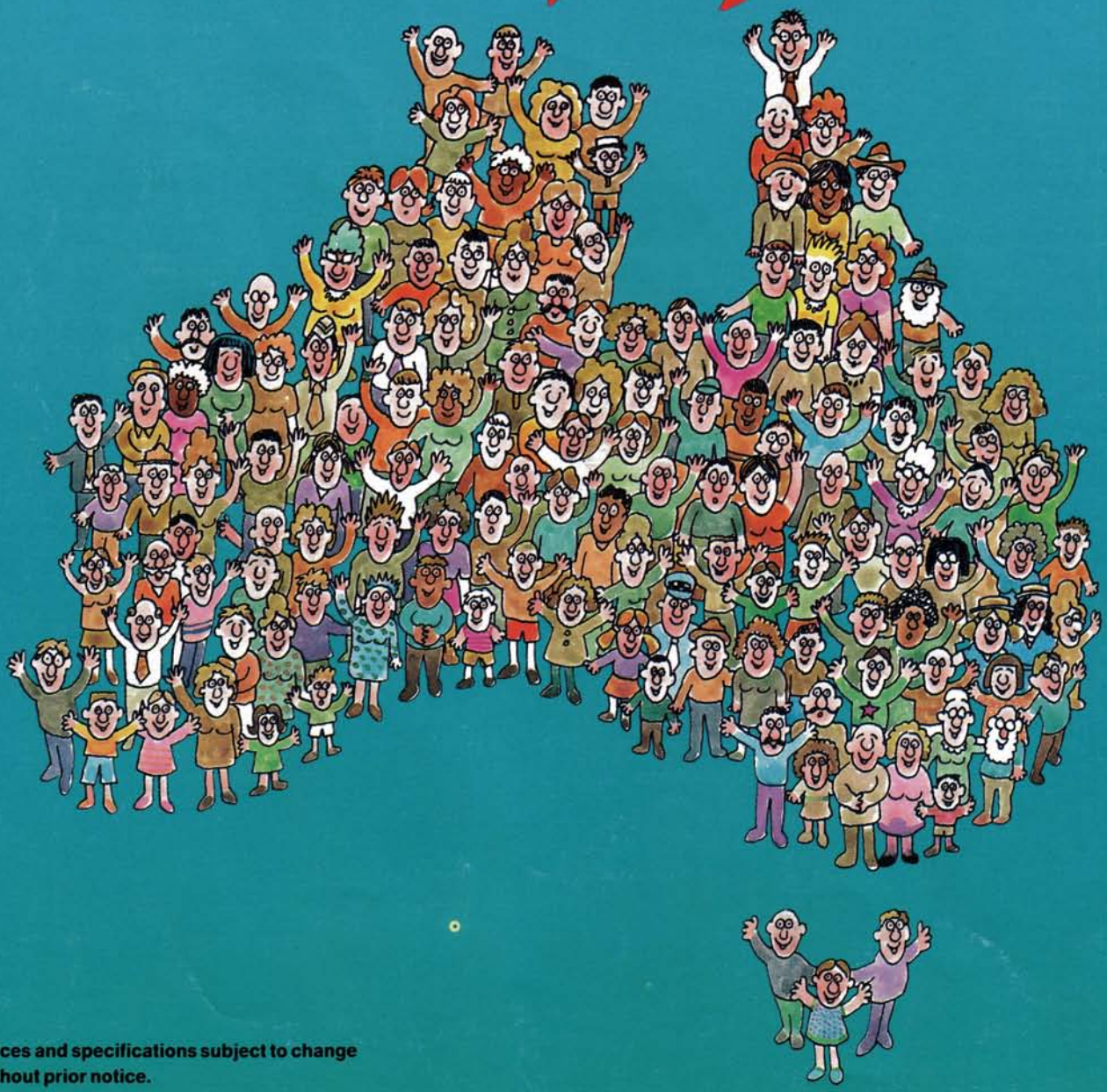
If you have a business in need of a more automated approach, you should contact the DSE Small Business Systems division, where we have all the answers for your office needs.

Get with the Buying Force!

DSE Wholesale

The last word for '87...

HAPPY BIRTHDAY AUSTRALIA!!



Prices and specifications subject to change without prior notice.